

India Studies in Business and Economics

N. Chandrasekhara Rao  
R. Radhakrishna  
Ram Kumar Mishra  
Venkata Reddy Kata *Editors*

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# Organised Retailing and Agri-Business

Implications of New Supply Chains on  
the Indian Farm Economy

 Springer

# **India Studies in Business and Economics**

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Editors

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on the Indian Farm Economy

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# Foreword

A major concern among the planners and policymakers in India today is how to achieve a minimum of 4% annual growth in farm output in order to sustain high overall growth in GDP, while ensuring its inclusiveness. Driven by rising demand, Indian agriculture is getting increasingly diversified into dairying, horticulture, meat and fisheries, etc. These products being input-intensive and perishable require a marketing infrastructure that enables the farmers to minimize postharvest losses, which are substantial now, and realize a much better share in the price paid by the consumers. Reforms in the marketing system for farm produce are, therefore, high on the agenda of planners. Overcoming the prevailing technological fatigue in agriculture is another important concern. But wider adoption of even the known technology as well as incentives for further innovations crucially depends on the favourable marketing environment. Therefore, the present book on the implications of organized retailing for the country's farm economy assumes special significance, and is very timely.

The move towards organized distribution of food and grocers has been the biggest change witnessed in the country in the new millennium. Gradual liberalization of agricultural marketing and easing of restrictions through a slew of measures including changes to Agricultural Produce Marketing Committee (APMC) Act have been playing a significant role in this transformation, besides demand-side factors like higher increase in disposable incomes, urbanization, aspiration for better shopping, and increased participation of women in workforce. The organized distribution of food and grocery raised hopes for speedy modernization of supply-chain sector in the country through its technological upgradation, resulting in improved competitiveness—necessary for sustaining high growth of the economy. Substantial investment in back-end infrastructure by organized retailers in areas like rural warehousing and cold chains is likely to benefit farming community. The rise of organized retailing also has the potential to drive the growth of food processing and consequently diversification of agriculture, as these are demand-driven in nature. The transformation of the agri-food system and the likely implications for the supply chains, from farming community to the ultimate consumers, have thrown up new areas for researchers.

Disintermediation through direct procurement of farm produce from farmers by organized retailers through establishing collection centres in the villages and centralizing distribution of fruits and vegetables so procured is the crux of the changes in the new supply chain, apart from investing in cold chains, modern storage, packaging and related infrastructure. Experience from other developing countries suggests that this will usher in far reaching changes in the methods of organization of food by farmers, processors, wholesalers on the one hand, and the purchasing habits of consumers, on the other. Now that these changes are on the horizon, research needs to be carried out to understand the real impacts.

The debate in the country overwhelmingly focused on the foreign direct investment in organized retail and its fallout, while in reality this sector has been spreading out at phenomenal growth rates. Given the strong investment capabilities of domestic private players, full-scale liberalization might not have as dramatic impact as in the Latin America or East Asia. Nevertheless, the entry of foreign players might increase the competition, professionalism and better service in terms of passing on the price margins to the consumers catapulting the organized retail to the tier II and tier III cities and to the people with lower income levels.

The book is born out of the international conference organized at the Centre for Economic and Social Studies and is concerned with understanding the international as well as the Indian experience regarding the impact of organized retailing on the fortunes of agriculture and on ways for overcoming the existing infrastructural and institutional constraints with a view to maximize the benefits for resource-poor farmers.

The present volume draws on some fresh evidence from both India and abroad and contributes to a more informed debate on the likely impact of supermarket diffusion on smallholders in the Indian context. The case studies presented in this volume show that the farmers get higher returns by selling to the supermarkets. The problem, however, relates to the inclusion of resource-poor farmers in the process for ensuring such benefits to them. The evidence from China and Kenya shows that the participation of smallholder farmers in the supermarket channel is possible provided the government plays the role of a catalyst by making better policies and infrastructure provisions to improve the competitiveness of smallholders. Moreover, poor smallholders may benefit through their participation in the labour market as the farmers may hire more labour to meet the exacting standards demanded by the supermarket chain.

All the case studies have taken note of continued dependence of farmers on traditional wholesale market. Moreover, most supermarket chains set their prices using the prices in the traditional wholesale market as the reference price, indicating latter's importance for a competitive agri-food system. That apart, procurement by the supermarket chains is often limited, leaving the farmers with the remaining produce to sell elsewhere. All in all, the government cannot shy away from its responsibility towards undertaking investment in the better provision of infrastructure in the traditional wholesale markets to promote a more inclusive agri-food system.

Public policy needs to be reformulated to help develop marketing infrastructure by building supporting infrastructure such as storage facilities, assured electric-

ity supply, transport and communication networks, which can be provided mainly through public investment or through public–private partnerships. The tasks on the institutional front are no less daunting. Over 80% of farmers now are small and marginal with increasing participation of women. Their awareness on the marketing problems in the new context as well as their bargaining power while negotiating with the more powerful buyers such as organized wholesalers and retailers needs to be raised by organizing them into sales cooperatives. Easy access to institutional credit and extension services by the government to small and marginal farmers can improve their bargaining power vis-a-vis private players who may increasingly provide such services. Another class of measures relates to those needed to address the concerns of potential losers from the growth of organized retail, consisting of *kirana* stores, small traders and commission agents, and pushcart vendors, with a view to enabling them to adjust to changes by upgrading their present activities wherever possible or move into new jobs and occupations created in the wake of high overall growth of the economy.

The book addresses the gaps in literature by bringing out a comprehensive set of papers delving into issues relating to organized retail and their links to agriculture on policy perspective; likely impacts of foreign direct investment; empirical evidence on small farmers in other developing countries and India; and finally producer companies to link resource-poor farmers to the retail giants. This book is the first of its kind on the implications of organized retailing for agricultural sector and the farming community. I have no doubt that this book would be a valuable addition to the economic literature on organized retailing. I do hope that the research community, civil society and policymakers will find it useful.

Centre for Economic and Social Studies,  
Hyderabad,  
April 8, 2015

C. H. Hanumantha Rao



# Preface

Reforms in agricultural marketing have come to the forefront of policy-making agenda in India in the past few years. In the prereform period, food policy in India paid inadequate attention to agricultural marketing. Supply chains were fragmented and lacked modernization. The initiation of liberalization policies and enactment of amendments to the Agricultural Produce Market Committee Act by the state governments, situation has been changing. The sector has also been opened to foreign direct investment.

Experiences from most of the developing countries in Latin America, Asia and Africa show that modernization of supply chains is inevitable with economic development. However, impact of this process on different stakeholders is not uniform across countries. In India, diffusion of organized retail or supermarkets accelerated in the new millennium after a slow start in the late 1990s and has brought both opportunities and concerns for the farm sector. The emotionally surcharged national debates on this phenomenon have often seen extreme claims and counter claims with little empirical evidence.

Some argue that organized retailing offers remunerative prices to farmers and better quality food and fair prices to consumers, and promotes investment in storage, packing and transport infrastructure. On the other hand, it is argued that it would ruin the small farmer-based Indian agriculture by bringing in new intermediaries, dealing mostly with large farmers, resorting to imports, and selling at higher than prevailing prices. However, the debate is not well-informed in the country with emotional undertones and without basing on empirical evidence. There is no significant research on the impact of organized retailing as the phenomenon itself is very nascent.

This book tries to fill this gap in literature by bringing out papers from scholars working on related issues from both India and other developing countries. This edited volume is born out of the international conference organized by Centre for Economic and Social Studies (CESS), Hyderabad in association with Indian Society of Agricultural Marketing (ISAM) and Institute of Public Enterprise (IPE), Hyderabad. The Department of Agricultural Marketing of Government of Andhra Pradesh cosponsored the conference. The brain storming sessions organized by CESS and ISAM firmed up the themes of the conference. Dr. T. Satyanarayana, Secretary of

ISAM played a major role in organizing the conference. The organizers of the conference and the editors of the book benefited immensely from the policy insights and sagacious advice of Dr. C. H. Hanumantha Rao. The inaugural address of Dr. C. Rangarajan at the conference, keynote address of Dr. S. S. Acharya and valedictory address of Dr. Y. K. Alagh were helpful in the choice of themes for the book. Dr. Manoj Panda, former director of Centre for Economic and Social Studies and present director of Institute of Economic Growth (IEG), New Delhi, and Dr. S. Galab, present director of CESS have generously helped in organizing the conference.

Many national and international dignitaries participated in the conference and enriched its proceedings. Asian scholars shared their experiences in reforming agricultural marketing in their countries. Given the focus of the book, not all papers presented at the conference could be included, but a few invited papers were included to fill the gaps. The editors of the book are indebted to the paper contributors for their painstaking effort in revising the papers.

April 9, 2015

N. Chandrasekhara Rao  
R. Radhakrishna  
R. K. Mishra  
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**R. Radhakrishna** is currently the chairman and honorary professor at the Centre for Economic and Social Studies, Hyderabad and chairman, Centre for Development Alternatives, Ahmedabad. He worked as the director of the Centre for Economic and Social Studies, Hyderabad for 10 years before moving to Delhi as the member secretary of the Indian council of Social Science Research, New Delhi. Later, he was the vice-chancellor of the undivided Andhra University, Visakhapatnam and director of Indira Gandhi Institute of Development Research, Mumbai for 7 years. He was the chairperson of Madras Institute of Development Studies during 2008–2013. His latest assignment was at the National Statistical Commission, New Delhi as its chairman. He has varied research interests in the field of economics. Considered to be an expert on poverty, food security and nutrition issues, he works on wide-ranging issues. Currently, he is the president of the Indian Society of Agricultural Marketing, which brings out the journal *Indian Journal of Agricultural Marketing*. He was the conference president of the Indian Society of Labour Economics in

2004 and also of the Indian Econometric Society in 2008. He was Jawaharlal Nehru National Fellow (ICSSR) during 2008–2010. He was awarded VKRV Rao Prize in Economics in 1986 and received ‘Telugu AtmaGauruvaPuraskaram’ in 1988 from the Government of Andhra Pradesh.

**R. K. Mishra** is senior professor, director and ONGC Subir Raha Chair Professor at the Institute of Public Enterprise, Hyderabad, India. A graduate of international management programme, SDA Bocconi, Milan, Italy, he has been a fellow of British Council and Commonwealth Secretariat. He has had research stints at London Business School and Maison Des Sciences De L’ Hommes, Paris. He has taught at the University of Bradford, UK and was a visiting Professor at Maison Des Sciences De L’ Hommes, Paris. He is a member of the UN Task Force on International Taskforce on Standards of Excellence in Public Administration and Education. He has been a management consultant to several organizations including DFID, Deloitte, Adam Smith Institute, ADB and Centre for Good Governance. He is an honorary member on the Board of Research, American Biographical Institute, USA.

**Venkata Reddy Kata** is a visiting fellow at the Centre for Economic and Social Studies, Hyderabad and joint secretary of Indian Society of Agricultural Marketing. He was the former head of department of applied economics in Andhra University, Visakhapatnam. A doctorate in agricultural economics, Prof. Reddy taught for three decades in the same department. His book *Agricultural Production Functions* was published by Ajanta Publications, New Delhi in 1990. Besides teaching and supervising several doctoral students, he has undertaken research studies for different organizations including University Grants Commission, Indian Council of Social Science Research, Indira Gandhi Institute of Development Research, Mumbai, National Thermal Power Corporation, and Planning Commission of Government of India. He has published research articles in many of the reputed journals in the field of agricultural economics. Currently, he is working on child nutrition.

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# Chapter 1

## Implications of New Supply Chains on the Indian Farm Economy: An Overview

N. Chandrasekhara Rao, R. Radhakrishna, R. K. Mishra  
and Venkata Reddy Kata

### 1.1 Introduction

The widespread diffusion of supermarkets<sup>1</sup> (or organized retailing as referred in India) in urban India and its implication for different stakeholders in the agri-food system has been the focus of academia, policymakers and donor agencies in India in the recent times<sup>2</sup>. India is considered as the last frontier in their development<sup>3</sup>, and the growth of supermarkets in India is in the third wave of their development in the world as a whole after 1980 (Reardon and Timmer 2014). Despite occupying a very low share of food and grocery sales at the moment, their speed of growth and likely implications on all the stakeholders including the resource-poor farmers make it imperative to study and examine the outcomes on the farm sector. The viability of farming in developing countries, dominated by smallholders, has been

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<sup>1</sup> The words “supermarkets” and “organised retail” are used throughout this text interchangeably with similar connotations.

<sup>2</sup> Several scholars raised these issues. For, e.g. see Reardon et al. 2003; Singh 2012; Chandrasekhar 2011; Patnaik 2011; Cohen 2013.

<sup>3</sup> Pritchard, Gracy and Godwin (2010) explain this in greater detail.

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a point of concern with the rapid diffusion of supermarkets in Latin America, Asia and Africa and the changing horizons of agriculture as a result of this (World Bank 2007; Hazell et al. 2010).

India has had organized retailing in food items in the public and cooperative sectors since the 1950s and 1960s, respectively. The public distribution system, with total retail outlets of around 5 lakhs with centralized procurement and distribution across the length and breadth of the country, qualifies for the term organized retail and has been functioning reasonably efficiently in selling food at subsidized rates. The cooperative sector has also been operating retail outlets in the name of Amul, Mother Dairy and Safal for sale of dairy products and fruits and vegetables, respectively. As the economy opened fully to market forces after 1991, the private sector took the first initiative in the mid-1990s by opening the *Food World* outlets as a joint venture between Hong Kong-based Dairy Farm International and the domestic RPG conglomerate. Nevertheless, the real take-off has happened after 2000, growing at a phenomenal growth rate from 2001/2003 to 2009/2010 (Reardon and Minten 2011a). All the leading corporate houses in the country—Reliance, Tata, Birla and RPG opened retail chains during this period, besides expansion by the Future Group. As a result of gradual liberalization of the sector, several major international chains like Walmart, Tesco, Carrefour and Metro have invested in collaborations with local players as they could not open shop directly.

### 1.1.1 *Winds of Change*

The relative neglect of marketing in agricultural policy and marginalization of private players had been recognized by the late 1980s. The government, in line with other reform-oriented policies, has initiated several measures to liberalize the agricultural market with a stated objective of creating a single all-India market for agricultural commodities and encouraging the private initiative to invest in marketing infrastructure. Starting with liberalization of cash and carry operations in 1996, it culminated in allowing 51% foreign direct investment (FDI) in multibrand retail in September 2012 and notifying guidelines in December of the same year. Recognizing the restrictive nature of the Agricultural Produce Market Committee (APMC) Acts and the predominant role of the states in policy formulations, the central government circulated a model APMC Act for enacting by state governments. Several states have passed this act with or without modifications, but the notification of rules and related procedures are at different stages in different states (Table 1.1).

Coupled with policy liberalization to spur private sector participation and creation of a single national agricultural market, the demand side factors like rising disposable incomes, urbanization<sup>4</sup>, rising middle classes, changing consumption

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<sup>4</sup> Urban food expenditure has increased significantly over the last three decades, with the share of urban food expenditure rising from 1/4th of the total national food economy in 1971 to 1/3rd by 2006, with cereal consumption declining from 36 to 23% during the same period (Reardon and Minten 2011b).

**Table 1.1** Progress of reforms in agricultural marketing acts and permission for foreign direct investment (FDI)

Reform	Stage of reforms	Name of states/union territories
Amendments to APMC Act	States/UTs where reforms to APMC act have been done for direct marketing, contract farming and markets in private/coop sector	Andhra Pradesh, Arunachal Pradesh, Assam, Chhattisgarh, Goa, Gujarat, Himachal Pradesh, Jharkhand, Karnataka, Maharashtra, Mizoram, Nagaland, Orissa, Rajasthan, Sikkim, Tripura and Uttarakhand
	States/UTs where reforms to APMC act have been done partially	(a) Direct marketing: Madhya Pradesh, NCT of Delhi, (b) contract farming: Haryana, Punjab and Chandigarh, (c) private markets: Punjab and Chandigarh
	States/UTs where the model APMC act is not adopted	Bihar, Kerala, Manipur, Andaman & Nicobar Islands, Dadra & Nagar Haveli, Daman & Diu and Lakshadweep
	States/UTs where the APMC act already provides for the reforms	Tamil Nadu
FDI in multibrand retail	States/UTs where FDI in multibrand retail is approved	Andhra Pradesh, Assam, Delhi <sup>a</sup> , Haryana, Himachal Pradesh, J&K, Karnataka, Maharashtra, Rajasthan <sup>a</sup> , Uttarakhand, Manipur (11 states), Daman & Diu, Dadra & Nagar Haveli
	States/UTs where FDI in multibrand retail is not approved	Bihar, Chhattisgarh, Gujarat, Jharkhand, Kerala, Madhya Pradesh, Orissa, Punjab, Tamil Nadu, Uttar Pradesh, West Bengal (11 states)

<sup>a</sup>Indicates states where new governments have withdrawn permission

patterns<sup>5</sup>, more and more women joining the workforce, access to refrigeration and personal vehicles<sup>6</sup> have been propelling supermarket growth in the country. The sheer size of the retail market in India and the medium to long-term growth prospects are attracting private players locally and globally. Estimated to be of the size of US \$ 600 billion in 2015, the country's retail market is projected to double to US \$ 1 trillion by 2020 recording a long-term annual growth of 12% (BCG-RAI 2015). Modern retail is expected to grow at 20% per annum compared to 10% by traditional retail. Modern retail comprises 10% of this at the moment and is likely to reach 15% by 2020. The share of modern retail in food and grocery is currently very low and different estimates put it at 2–3%. However, Kohli and Bhagwati (2011) examined the issues and outlook on organized retailing in India and concluded that organized retailing posted a growth of 7.5% between 2004 and 2009. As retail

<sup>5</sup> Many studies have documented the change in consumption patterns and move towards high-value products. See for, e.g. Radhakrishna (2008).

<sup>6</sup> Among the urban households, the ownership of vehicles increased 15-fold (NCAER 2005), while that of kitchen durables increased about fourfold (Albett et al. 2007).

purchases are not likely to grow as fast as household consumption, which itself is not likely to grow as fast as the gross domestic product (GDP) in India, the rate of overall growth in retail sales is likely to fall below the GDP growth. However, they assert that the market size is big and there is scope for both players. Finally, they conclude that large corporate retailers can improve systemwide efficiency and productivity in the distribution chain and that will be crucial for their growth.

The past few years have seen the rise of e-tailing<sup>7</sup> in the country's marketing arena in a big way. It is estimated that it will reach US \$ 60–70 billion by 2019. The unprecedented growth rate of 83% in e-tailing between 2008 and 2012 in China (Technopak 2013) is an indication of things to come in India too. Currently, there are 35 million people buying online and this is expected to increase to 100 million in the next 2 years. A. T. Kearney, in its 2014 report, estimated that e-tailing will grow at 50% per annum in the next 5 years. Nevertheless, the question is how much of food and grocery will be marketed through e-commerce. While the share is very low in the USA and other Western countries, it is argued that due to the poor state of road infrastructure and other shopping facilities in India, consumers may prefer online shopping for these items also. There are some start-up companies (Ekstop.com; BigBasket.com; LocalBaniya.com) that are already engaged in this. Reliance also started an online service named *reliancefreshdirect.com* in 2014 around Mumbai and going to expand in a big way, leveraging its shopping infrastructure from Reliance Fresh and Reliance Mart. Several other organized retailers are also moving in the same direction.

The enthusiasm in opening new outlets and scaling up has receded after the slowdown since 2009, though there has been some rebound of late. Some of the chains like Subhiksha<sup>8</sup> (Having more than 250 outlets at the time of closure) have completely closed shop, unable to break even and sustain, while several others have closed a few outlets. After the restructuring and consolidation, there were 2395 food and grocery stores in organized retail in India (Table 1.2). A. T. Kearney has downgraded India to 20th position in the Global Retail Development Index (GRDI) in 2014 from the first in 2009, fifth in 2012 and 14th in 2013, while China and Brazil continue at the top for the past several years. They identified problems such as higher consumer inflation, currency fluctuation, current account deficit, government debts, and restrictive FDI policies as the reason for this downgrading and hoped that it might rebound with the new government in place. The Economist (2014), in a recent article, observed that the supermarkets in India could not offer either good services or lower prices. As they do not have the muscle to bargain with multinational companies, they could not squeeze the surpluses and pass on to consumers. The share of supermarkets retailing is abysmally low and are struggling to

<sup>7</sup> E-tailing is a subset of e-commerce, which encapsulates all “commerce” conducted via the Internet. It refers to that part of e-commerce which entails the sale of product merchandise and does not include sale of services viz. railway tickets, airlines tickets, job portals, etc.

<sup>8</sup> Subhiksha was an Indian retail chain with 1600 outlets selling groceries, fruits, vegetables, medicines and mobile phones. It began operations in 1997, and was closed down in 2009 owing to financial mismanagement and a severe cash crunch. It operated on discount department store model.

**Table 1.2** Supermarket chains in India, 2014. (Source: The Economist (2014))

Sr. no.	Company	Food and grocery formats	Number of stores
1	Reliance Industries	Reliance Fresh	550
2	Future Group	Big Bazaar, Food Bazaar, Foodhall, KB's Fairprice	530
3	Aditya Birla Group	More	504
4	REI Agro Ltd	6Ten	344
5	Bharti Group	Easyday	210
6	RP-Sanjiv Goenka Group	Spencer's	135
7	Avenue Supermarkets	D-Mart	79
8	Godrej Group	Nature's Basket	32
9	Tata Sons	Star Bazaar	11
		Total	2395

make profit. However, the underlying dynamics indicate that organized retail will eventually move forward and occupy a larger share of food and groceries as well in the medium term.

### ***1.1.2 Direct Procurement—Unique to Organized Retail***

Direct procurement from farmer producers of fruits and vegetables establishing direct links leading to “disintermediation” is the most striking feature of the supermarkets. This, coupled with their centralized distribution system creating back-end infrastructure, separates them from the traditional marketing channels. Typically, the initial operations of supermarkets start with purchasing from existing intermediaries in traditional markets and then move to direct procurement. Also, they start with processed foods initially and expand to fresh food items. Contrary to this pattern of their evolution in most other countries, organized retail in India switched to direct procurement early on in their development, apart from selling fruits and vegetables since the beginning (Reardon and Minten 2011a). The difficulty in getting reliable and quality products, poor road infrastructure and an inefficient supply chain with very low or no cold storage facilities might be behind early procurement operations, while cultural factors leading to consumers’ preference for fresh food propelled the supermarkets to start with fresh food early.

Supermarket chains in India, quite early in their diffusion, adopted different formats of procurement to purchase fresh produce from the farmers directly, bypassing the traditional wholesale market. These variants of procurement models are located in a continuum of “technology/institutional/organizational” modes that include “most traditional sourcing system” at one end and the “most modern” at the other end (Reardon et al. 2012).

In “most traditional sourcing system”, most supermarket chains continue to procure the majority of fresh produce requirements from the spot markets at traditional wholesale markets. Some of these supermarkets work with a specialized wholesaler who buys, sorts, grades and delivers the produce to supermarkets in wholesale

markets. The subsequent stage involves “modernizing traditional” market by the emergence of some wholesalers who are more consolidated and large enough in size to displace the “first link in the chain”—traditional field brokers. A little more advanced variant, “transitional modern”, involves working with specialized wholesalers who works off the wholesale market and largely source from farmers by applying private standards and deliver the produce to the supermarket chains. Adani Agrofresh serves as an example of specialized wholesalers who procure fresh apples from the farmers in Himachal Pradesh, which is then supplied to the supermarket under the brand name of “farm pick” (Pandey et al. 2013). In another format termed as “most modern”, the supermarket chain procures fresh produce either through their own collection centre in the key production areas or through cooperatives. The leading supermarket chains in India such as Reliance Fresh have followed a model of back-end operation that largely involves procuring fresh produce from farmers through collection centres. In another extreme, the supermarket chain follows a vertically integrated model, setting up its own farm to meet the requirement of fresh produce. Examples of such models can be found in Reliance Fresh setting up its own apple orchard in Himachal Pradesh, and Namdhari Fresh sourcing part of its fresh produce requirement from its own farm in the state of Karnataka. Based on the evidences emerging in other developing countries, the models of procurement followed by the supermarket chains are likely to converge over time towards “most modern”, though a certain amount of intermediation cannot be ruled out. This is because supermarket chains, in their drive to address increasing concerns among the consumers about the quality and standards, tend to procure directly from the farmers applying their own standards.

## 1.2 Supermarket Procurement and Impacts— Experiences and Concerns

There is overwhelming evidence to suggest that participation in supermarket procurement has benefitted the cultivators through income gains, higher and stable prices, employment and technology adoption (Minten et al. 2009; Miyata et al. 2009; Neven et al. 2009; Rao and Qaim 2011, 2013; Rao et al. 2012; Bellemare 2012; Michelson et al. 2012; Michelson 2013). Analysing primary data from 10,000 vegetable farmers on contract to modern supply chains in Madagascar, Minten et al. (2009) found that the participating small farmers have higher welfare, more income stability and shorter lean periods, and also significant effects on technology adoption, better resource management and spillovers on the productivity of staple crop rice. In another study on supermarket participants using data across several regions, firms and crops in Madagascar, Bellemare (2012) found that a 1% increase in the likelihood of participating in contract farming is associated with a 0.5% increase in household income, among other positive impacts. Analysing and comparing the welfare effects in different horticulture export chains in sub-Saharan Africa and disentangling different types of effects and the channels through which rural

households are affected, Maertens et al. (2012) conclude that increased high-value exports and the modernization of export supply chains can bring about important positive welfare effects, which can occur in various ways through product or labour–market effects and through direct and indirect effects.

Some of the household characteristics can influence income of the participants and if not properly controlled for, can inflate the impact of participation. A few studies have employed econometric tools to overcome this problem. For example, Miyata et al. (2009) compared contract and noncontract growers of apple and green onions in Shandong Province, China and found that the participation can raise small-farm income, though questions remain regarding the number of farmers that can be brought into such schemes. Building on primary data from farmers selling to supermarkets, Rao and Qaim (2011) concluded that there was a 48% gain in average household income, which also contributes to poverty reduction with a caveat that these benefits on a larger scale will require institutional support. Analysing the geographic placement of supermarket supply chains in Nicaragua between 2000 and 2008, Michelson (2013) concluded that selling to supermarkets increases household productive asset-holding. However, he has also observed that only farmers with advantageous geography and water are likely to participate in these channels.

The extant literature is gradually moving towards analysing wider impacts like employment, poverty and gender dimensions as smallholder cultivators sell to the supermarket collection centres. Analysing the farm level impacts in the small farmer dominated Kenyan horticulture sector, Neven et al. (2009) found 60–70% higher labour productivity, higher employment through overwhelming (80%) dependence on hired labour, higher wages and year-round employment. Another study in Kenya by Rao and Qaim (2013) concluded that participation in supermarket channels increases the likelihood of hiring labour by 20% and demand for hired labour by 61%, with pronounced positive impacts for women labourers. In a further push to the existing literature, Rao et al. (2012) found that participation in supermarket channels increases farm productivity in terms of meta-technology ratios by 45%. They also found positive and significant impacts on technical efficiency and scale efficiency.

The issue of prices paid to the farmer producer and prices charged to consumers by supermarkets has been addressed in the literature too. A study among farmers selling to supermarkets in Nicaragua supports the hypothesis that supermarkets reduce price volatility over the traditional markets, though the prices paid to farmers are not higher relatively (Michelson et al. 2012). Regarding consumer prices, empirical evidence from developing countries shows that the impact of large modern retailers is mixed. While some studies have shown that the prices are lower in the supermarkets in Kenya (Neven et al. 2006), India (Minten et al. 2010), Chile (Reardon and Hopkins 2006) and South Africa (D’Haese and Van Huylenbroeck 2005), few other studies have found contrary evidence. For example, Minten (2008) finds that food prices in global retail chains in Madagascar are 40–90% higher than in local traditional retail markets, after controlling for quality. However, Minten and Reardon (2008) concluded, from available survey-based evidence from ten developing countries plus primary data from Madagascar, that it leads to a stable and

predictable pattern in supermarket pricing and quality offerings versus traditional markets to the consumers.

The new procurement policies of organized retail, discussed above, raise the question—whether smallholders would be able to participate in supermarket supply chains and what impact such participation would have on their livelihood. While supply of fresh produce to the supermarket chains ensures higher profits and stable prices, participation in such emerging marketing channels often entail higher investment, posing both challenges and opportunities for small farmers. This has significant implication especially when the smallholding character of Indian agriculture is more prominent than ever before. Small and marginal farmers account for more than 80% of holdings and most of these farmers face idiosyncratic market failures that include limited access to credit and land markets and extension services and other input markets, limiting their ability to undertake the needed investment to meet the requirement of standards demanded by supermarket chains. There are also some concerns that the penetration of supermarkets will trigger consolidation of land holdings, putting in risk the livelihoods of millions of small farmers (Singh 2012; Chandrasekhar 2011).

Nevertheless, the vociferous debate on the likely implications of the supermarket diffusion on smallholders has not been matched by studies based on hard empirical evidences. We first take recourse to international literature on the extent and impact of smallholder participation in the supermarket supply channel for an informed debate on the issues that concern livelihoods of majority of poor Indian farmers. The exclusion of small farmers is more likely in the context of scale dualism in the farm sector where the supermarket procurement manager has the option of procuring from large farmers. An example of such trends can be found in Kenya where the supply chains linking the Kenyan farmers with the UK supermarkets has witnessed greater consolidation over time, with large exporters sourcing 40% of the produce from their own farms and 42% from the large commercial farms vis-a-vis only 18% from small farms (Dolan and Humphrey 2000).

Similar patterns of supermarket chains overlooking small farmers for their procurement of fresh produce have been noted in a number of countries in Latin America that include Guatemala (Berdegue et al. 2005) and Mexico (Reardon et al. 2009). The same was observed in Kenya also (Rao and Qaim 2011). However, some exceptions to this general pattern of exclusion of the smallholder can be found in Latin America, particularly in a sector dominated by smallholders. The examples include tomatoes in Guatemala and guavas in Mexico (Reardon et al. 2009) and Nicaragua (Michelson et al. 2012).

The perception of large farmers as riskier marketing options, availability of family labour, organizing into cooperatives and contracts can be four pathways for inclusion of small farmers into the supermarket supply chains (Reardon et al. 2009). The case in point is Mahagrape in India. Bakshi et al. (2006) demonstrates how Mahagrape, a marketing partner to a cooperative, successfully secured the participation of small farmers through some public–private partnership in a high-value grape export market. Similarly, small farmers managed to participate successfully in the



procurement program initiated by Hortico agri-food system because of a resource provision contract offered by the company.

The evidence of whether and how small farmers manage to participate in the supermarket supply chains in Asia is also mixed. Wang et al. (2009) noted continued dominance of small traders in Chinese horticultural economy, with little or no effect on small farmers who continue to supply fresh produce to the supermarkets through these traders. The study by Miyata et al. (2009) finds no bias towards larger farmers in a contract farming scheme initiated by supermarkets in Shandong Province in China. In another study on China, Stinger et al. (2009) found that the attributes that minimize transaction costs of contracting, purchasing, handling and supervision are critical for successful participation in the emerging modern supply chain in China. He further found that processing companies prefer to procure fresh produce from farmers through farmers' groups, thus reducing transaction costs of working with individual farmers.

The limited literature emanating from other countries in Asia points towards the supermarkets preference for larger farmers (Singh 2012; Shepherd 2005). The early pattern of procurement followed by Tops supermarket chain in Thailand shows that it reduced the number of suppliers from 200 to 30 within a few years of its operation. Singh (2012) in a review of procurement practices of Indian supermarket chains finds that the farmers supplying fresh produce to the supermarkets have larger than average size landholdings in the catchment areas. Two empirical studies in the Indian state of Karnataka suggest that supermarket chains tend to work with larger and more capitalized farmers (Mangala and Chengappa 2008; Pritchard et al. 2010). Mangala and Chengappa (2008) noted in a case study of Spencer's that the supermarket chain procures from farmers who have large irrigated landholdings. In a more recent study in the same state, Pritchard et al. (2010) find that farmers supplying fresh produce to Reliance Fresh in the outskirts of Bangalore city have reported a landholding size bigger than the average size of landholding in the region. In the context of small farmers' dominance, a skewed distribution of assets such as access to irrigation, and other non-land assets such as crop-specific equipment are often keys to who finally manage to participate in the supermarket supply chains (Reardon et al. 2009). The evidence of this trend has been noted in several studies on small farmers' participation (Hernandez et al. 2007; Natawidjaja et al. 2007).

The review clearly brings out divergent trends regarding inclusion of the smallholders, while the returns are higher in most of the cases. However, there are some studies in Asian countries like Thailand (Schipmann and Qaim 2010) showing lower returns to sweet pepper farmers. Therefore, empirical evidence in the specific agro-climatic, socioeconomic, political, institutional and technological factors becomes important in understanding the impacts of the supermarkets on the farming community. The foregoing analysis on the evolution of supermarket supply chains in India and hypotheses regarding profitability and inclusion in these chains sets the background for examining the likely implications for the Indian farm economy.

### 1.3 Overview of Chapters

The present volume is born out of a conference organized at the Centre for Economic and Social Studies (CESS), Hyderabad on the theme “Organised Retailing vis-à-vis Farm Economy of India” that aimed to bring together diverse perspectives on the likely implications of supermarket penetration on the smallholder livelihoods, and thus contributes towards an informed debate on the issue. The revised papers are presented in the volume under five sections—policy perspective, international experience with organized retail, FDI in retail and implications and the Indian experience with organized retail and finally, experience with producer companies in India.

#### 1.3.1 Policy Perspective

Four chapters in this section examine the overall impacts of organized retail on agriculture, comparative international perspective on regulatory policies, relative roles of public and private sectors and an alternative approach keeping in view equity and environmental sustainability.

*Rangarajan* in his chapter examined the impact of modern organized retail on the agricultural sector and observes that the assessment of impact of modern retail often proves to be a difficult exercise given that a number of stakeholders are involved in the supply chain of agricultural produce that include suppliers, middlemen, distributors, retailers, etc. On the whole, the consumers stand to benefit from the emergence of modern retail as the supermarket chain offers cheaper prices to the consumers. Such benefits are more pronounced in a country like India where an average consumer spends more than half of his expenditure on food items. The traditional supply chain of fruits and vegetables lack adequate infrastructure such as cold storage and suffer from the restrictive APMC Act that makes the produce pass through a number of intermediaries, often resulting in a very high mark-up. In recent times, the rise in the prices of fruits and vegetables has been higher than cereals even though the country has been the second largest producer of fruits and vegetables in the world. With a global and regional procurement network, the supermarkets can reduce transaction costs, and offer more diverse products in quality and standards demanded by the consumers.

The threats posed by the emergence of organized retail to the traditional retail sector have been unfounded as borne out by the presence of mom and pop stores in the countries where the modern organized retail sector accounts for a significant share. With provision for capital and better training, traditional retail can gradually adapt with modern organized retail and become part of franchises with organized retail. Traditional retail can coexist with modern retail because of certain inherent advantages of traditional retail such as personal touch with the consumers.

Though the organized retail chains procure directly from the farmers, their tendency to procure only from the large and medium farmers raises the concern of

exclusion of small farmers in the modern agri-food system. Farmers organized in the form of cooperatives such as Amul show how modern retail can bring benefits to the farmers. Another such successful initiative is the Mother Dairy. Among the other benefits, contract farming initiated by supermarket chains can reduce the transaction costs and link the farmers with more lucrative markets. The chapter concludes that the removal of agricultural produce such as fruits and vegetables from the purview of the APMC act, as envisioned in the 12th Plan Approach Paper, and better provision of postharvest infrastructure such as cold storage for fruits and vegetables will go a long way in ensuring better remuneration for the farmers.

*Anuradha Kalhan and Martin Franz* review the regulatory experience of both South-East Asian countries and Germany to draw lessons for India, as the country is set to experience fast diffusion of the organized retail sector. The retail revolution in much of the developing countries is largely the result of policies guided by the political economy of neoliberalism. The socioeconomic developments that drove organized retail in advanced countries are still in the incipient stage in many of the developing countries. The process of supermarket diffusion in India often involves lobbying the government for changing the regulations in real estate and agricultural produce markets. India has much to learn from the experiences of South-East Asian countries such as Indonesia, Malaysia and Thailand, which, after a period of *laissez faire* policies, moved towards putting in place more stringent laws and regulations to restrict the proliferation of large format retailers.

India is not sufficiently equipped to deal with the rapid and profound changes in the retail marketing structure that may occur from liberalizing the sector to FDI. The New Competition Act 2002 that replaced the Monopolistic And Restrictive Trade Practice (MRTP) Act 1969 has still not accounted for some of the implications related to the mergers and acquisitions and concentration of economic power. Indian urban planning, implemented at the metropolitan level, often involves multiple agencies, creating the problem of coordination and control. Moreover, such local authorities are often prone to manipulation by the large retail companies.

Germany, as a country that has a robust policy relating to the retail sector, offers several lessons to India. German laws changed several times in reaction to the changes in the retail market to control the adverse effects of anticompetitive behaviour of supermarkets and the concentration of economic power in these supply chains. It also uses land use planning laws judiciously to control the retailing trade.

The chapter by *Mishra, Mahesh and Srinivas Kolluru* based on the review of global supply chains and food retailing systems, calls for more calibrated regulatory policy so that the structural changes in the food system are addressed properly without causing much damage to the key stakeholders in the local commodity chains. The authors observed that marketing of agricultural produce, particularly high-value crops, in India as it stands today needs public and private programmes for solutions that benefit all the stakeholders in the agri-food system. The private sector can facilitate market linkages between small farmer cooperatives and supermarket

chains by providing assistance in market linkages, training in postharvest handling and credit facilities for on-farm investments in assets required to meet the quality and volume requirements, such as irrigation and greenhouses. The government agencies, on their part, should supplement private efforts on the investments to improve farmer's access to resources, services, training and information.

The government should formulate regulations that act as guidelines on the retailer–supplier relations to promote fair commercial practices. Experiences of South-East Asian countries and Germany can be instructive for India in formulating more effective regulations. The government should also spend revenues realized in the regulated markets in the better provision of physical infrastructure that includes upgradation of wholesale markets and other physical infrastructure such as cold storage and road facilities.

Reflecting on an alternative perspective, *Amita Shah* noted that the experiences of other countries cannot work as a guide for future development of the retail sector in a country like India, where slightly less than 50% of the total workforce still work in the primary sector that accounts for as little as 18% of its GDP. The issues such as equity and environmental sustainability have received little attention in the recent debate on FDI. In the modern agri-food system, the initiatives to address the environmental concerns through mechanisms of private standards, labelling and price premiums are at best piecemeal and, without the support from the state, are more likely to create product differentiation, leading to the exclusion of poor consumers. Shah further argued that such green initiatives might create incentives for diversion of increasing proportions of natural resources at the cost of poor regions, producers and consumers.

She noted that most studies on the environmental impact assessment of supermarket supply chains take a static view of alternative food systems and search for solutions within the modern agri-food system. In a setting where agricultural operations take place under diverse and constrained socioeconomic conditions, possibilities of sustainable farming could be explored, provided the state takes a proactive role. The present market-driven approach misses out on the importance of looking at the environmental impact in the context-specific situation.

The study noted that the much hailed coexistence of traditional and modern sectors in the retail food markets is more likely to deepen the existing duality while intensifying the natural resource depletion in India's farm economy. The private standards adopted by the retail chains only addresses the concerns raised by the consumers relating to the application of chemical inputs and labour processes but do not really concern with larger environmental issues such as depletion of groundwater, and change of land use away from subsistence crops. In the present context, the fair trade initiatives that are being practiced in some pockets will have only a limited impact in the absence of corresponding changes in the larger trade framework. The issues such as equity and environmental sustainability are hitherto kept outside the framework of international trade. She further concluded that the public policies should take centre stage in laying out the road map for sustainable agriculture and, importantly, such policies should precede the expansion of the modern retail sector.

### ***1.3.2 International Experiences with Organized Retail***

The section on international experience with organized retail draws upon three contributions, outlining the experiences of supermarket diffusion and its impact in Kenya, Malaysia and China.

*Elizaphan Rao and Matin Qaim* evaluate the impact of supermarket procurement on the rural livelihoods, using primary data from a large field survey in rural Kenya and econometric analysis. The higher product quality and consistency demanded by the middle- and upper-income consumers paves the road for the emergence of supermarkets that contract suppliers and traders, specifying standards and modes of delivery to meet such demand. The study notes that farmers with better education and access to assets are more likely to participate in the supermarket channels. However, the public sector, on its own or in collaboration with the private players and NGOs, can step in to facilitate participation of disadvantaged farmers by making better provision of infrastructure and transportation and credit facilities, underlining the importance of a similar role played by the government in China (as discussed in one of the subsequent chapters).

The analysis shows that participation in the supermarket channel has translated into higher incomes, with poorer households owning smaller farm sizes benefitting more compared to better-off households. The study found higher and stable prices, better incentives for adoption of technology and better access to information, which led to gains in technical efficiency. Moreover, an assured market and stable prices reduce market risks, thus improving the scope for gains from specialization. The benefits of supermarket procurement go beyond the suppliers as the suppliers to the supermarket channels hire more labours compared to their traditional counterparts, allowing the poor rural households to benefit through their participation in the labour market. The study also finds that women are more likely to benefit from their participation in the labour market.

*Fatimah Mohamed Arshad*, in her chapter, traces the growth of the new retail formats such as hypermarkets, departmental stores and supermarkets and its implications to the fruit and vegetable sector in Malaysia, in particular to the small producers. The structural differences between the new supply chains and conventional marketing are compared. Some measures of concentration are provided to indicate the degree of competition in the retail sector. Within less than a decade, the new super retailers were able to capture a significant market share of the local fruits and vegetables at the expense of the small-time local retailers. Their procurement system which emphasizes on consistent supply and rigid quality standards indirectly cuts off the small farmers from the supply chain. New types of intermediaries and packing houses emerged, replacing the traditional middlemen role usually performed by small-time wholesalers or traders at the farm level. She concludes that it entails a reform programme that enhances productivity, product quality and institutional restructuring towards the cooperative movement, to integrate the small farmers into the new supply chain.

*Dinghuan Hu and Fred Gale* examined how farmer–supermarket direct purchase models initiated by Carrefour, with active encouragement from the Chinese government has reduced the number of intermediaries in the supply chains, facilitating better transmission of information on quality and safety standards between the producers and consumers. In the traditional marketing system, farmers largely rely on the chain of brokers and traders to sell their produce, with very little understanding of quality and grading requirements of final buyers. In such a system, tracing the toxic chemicals and adulteration is almost impossible, causing impediments to the participation by the farmers in the high-value vegetable market. The government took a number of initiatives to improve the present set-up that included first conducting a meeting with the representatives of supermarket chains to encourage direct procurement, followed by making provisions for investment support for the construction of distribution centres, cold storages and facilities for testing food products procured directly from the farmers. In a policy measure aimed at encouraging smallholder participation, the government of China also announced exemption of VAT on produce procured from the farmers' cooperatives, unleashing a revolution of cooperatives, which numbered 15,600 by the end of 2011. This chapter further notes that such direct purchase models have the potential to improve social welfare.

Buoyed by the success of these models, Carrefour, one of the leading supermarket chains in the world active in China, later set up SOCOMO, the company's global fresh product purchase unit, making the country a regional centre for global sourcing. However, as of now, only a handful of cooperatives managed to upgrade themselves, underlining the need for substantial investment to reach world standards.

### ***1.3.3 FDI in Organized Retail and Implications***

This section contains two chapters that discuss the likely implications of FDI in multibrand retail trade (MBRT) for the farming community and percolation of net foreign investments in the Indian farm sector.

Based on a review of the procurement practices followed by the supermarket chains in both India and abroad to explore the implications of liberalization of FDI in retail on the different stakeholders in the agri-food system, Sukhpal Singh observes that the new set of organizations and institutions brought in by the supermarket chains, such as contracts and private standards, often result in rationalization of suppliers, leading to the exclusion of small farmers in the modern supply chains. The small farmers with low level of human and physical capital manage to supply to these chains only when they work through collective organizations or preferred suppliers. The study further notes that the procurement practices of Indian supermarket chains do not ensure benefits of transfer of technology as most of the procurement happens through collection centres without any formal contract and commitment to buy, and are initiated only to increase their market share. The liberalization of retail FDI will only accentuate the diffusion of supermarkets, bringing with it the

effect of “Retail Darwinism”, which will reduce the employment in the retail sector. Moreover, the rapid diffusion of supermarkets will lead to concentration of market power, and the lack of competition may lead to a rise in consumer prices.

According to the author, India does not have adequate institutions and effective governance in place to regulate and monitor the operations of the global retailers to ensure fair prices to the farmers. Moreover, there is no mechanism to ensure that the supermarkets procure from small and marginal farmers, nor is there any institution to ensure that the farmers get fair prices without any delay. The study concludes that there should be a greater level of preparedness in terms of producer institutions, regulations and well-tailored incentives for inclusiveness in the agri-food system.

*Chalapathi Rao and Biswajit Dhar* analysed publicly available evidences on the joint venture between Bharti Retail and Walmart, the largest retail chain in the world, to explore the regulatory implications of liberalization of FDI in multi-brand retail. They argued that this joint venture provides a classic example of how the large multinationals influence public policies in developing countries such as India and Mexico. They further argued that the regulatory authorities in developing countries are not equipped to regulate big multinational retail companies. They cited how Walmart already invested in retail operations in India through an entity called Cedar Support Services, even at a time when it had the permission only for cash and carry wholesale, indicating the ineffectiveness of the government regulations. Another case in point is how the mandatory sourcing of 30% of the value of products sold from small and medium enterprises is diluted in the case of single-brand retail as the government accepted the argument of IKEA that “its suppliers were bound to grow due to their association with the company and that such firms should continue to qualify as small industries even if their investments exceed the limit subsequently”. The authors also questioned why a similar regulation was not imposed on the 51% FDI in multibrand retail. Moreover, the official criterion that identifies small industries on the basis of investment is not clear on the issues of ownership as even the 100% foreign-owned companies can qualify as small industries.

Further, the study examines the cases of Swatch Group, Sony and Samsung to show how the initial manufacturing proposal approved by India eventually got turned into a trading enterprise without any benefits to the local economy. The authors also questioned the logic of a firm such as IKEA with variety of products on offer being considered as single-brand retail. Lack of clarity on broader classification of what constitutes single or multibrand retail has significant implications for the follow-up action to be taken by the government. The study further concluded that the net investible funds coming from liberalization of FDI may not be much if one looks at the associated imports and other payments related to such decisions.

### ***1.3.4 Indian Experience with Organized Retail***

The empirical evidence of the impact of organized retail on the farming community is very limited and emerging. The extant literature also confines itself to understanding the immediate profitability to the farmers, determinants of participation

and a few related things, as the phenomenon in question is barely a few years old. Four chapters in this section present evidence from field studies and econometric exercises in the north, northwestern and southern parts of the country, while the fifth chapter explores the outcomes of the initiatives of an input company on the price margins and related issues to the farming community in Maharashtra, which is the most advanced vegetable-growing state in India.

Based on evidences from 380 households in Haryana, *Seema Bathla* compares the benefits realized by farmers under traditional and modern marketing channel. The study finds that farmers of all size landholdings are in contract with retail chains such as Mother Dairy and Reliance Fresh. She notes that smallholders have not only participated in the supermarket channels, but also allocated a higher proportion of their farmland to the production of fruit and vegetables under contract. The higher standards demanded by the supermarket channels often translate into higher demand for labour, which smallholders have in abundance because of low opportunity cost of their family labour. This, coupled with the prospect of quick returns from vegetable cultivation, provides strong incentives for the smallholders to sell their fresh produce to supermarkets. The study finds that farmers benefit from their association with the supermarket chains, as evident from relatively higher yield and cropping intensity with participation. Among other benefits, the study notes that supermarket farmers reported higher values of output compared to their traditional farmers irrespective of their farm size. The study also notes that marketing and transportation costs incurred by farmers and supermarkets associated are significantly lower. Thus, the farmers growing crops under contract with supermarkets receive higher net returns compared to those in the traditional marketing channel.

The study, however, observes that the higher unit returns received by the farmers may be offset by a higher rejection rate in the supermarket system. Moreover, the farmers supplying fresh produce to organized retail chains face higher risk because of higher investment that they incur to meet the standards set by these chains. That apart, farmers selling their produce to Mother Dairy also face risks in terms of higher variation in prices. The farmers still prefer to sell to the organized retail chains because of higher returns, reduction in transportation and marketing costs, greater transparency and convenience. However, an overwhelming majority of farmers, even including those that supply to supermarket chains, continue to depend on the traditional marketing system, underscoring the importance of the role to be played by the government in making better provision of facilities in the traditional wholesale markets. Given the growing importance of marketing of fruits and vegetables, the APMC should also make investments in the marketing infrastructure to reduce wastage of such perishable crops.

*Naresh Singla, Sukhpal Singh and Paramjeet Kaur Dhindsa* examined the inclusiveness and effectiveness of the emerging agri-food system based on a primary survey of farmers that supply cauliflower and cabbage to Reliance Fresh in the state of Punjab. Reliance Fresh, quite early in their diffusion, is sourcing 70% of its fresh produce requirement directly from farmers through collection centres. As many as 52% of the farmers supplying to Reliance Fresh are small, lending credence to the



evidence noted by Bathla in the previous chapter that farm size, contrary to the trend noted in international literature, is not necessarily a significant determinant of participation in the modern agri-food system. In another contrast to the trend noted by Reardon et al. (2009), supplying farmers to Reliance Fresh reported lower ownership of farm equipments compared to the non-suppliers. Though the farmers benefit from the supermarket chain procuring the produce from the farm gate, they incur higher marketing costs in the produce rejected by the chain, indicating that net benefits in terms of savings in marketing costs may not be significant. The study found that both the cabbage and cauliflower farmers got higher returns over their traditional counterparts by 19 and 8%, respectively.

However, the benefits accruing to the smallholders for supplying fresh produce to Reliance Fresh are limited because of limited procurement and little or no provision of extension facilities by the supermarket chain. The study concludes that as the traditional wholesale mandi still sets the price for other actors in the agri-food system, a more transparent and quality-based price auction in the mandi will benefit both the supermarket and traditional farmers.

*Chengappa, Mangala and Vijayalakshmi Dega* evaluated backward linkages set up by Spencer's supermarket chain, based on a primary survey of farmers who supply fresh fruits and vegetables to its consolidation centre in Hoskote, Karnataka. From the point of view of Spencer's, the direct supply by the farmers to the consolidation centre allowed the retail chain to exercise greater control over quality, supplies and prices. The retail chain reduced the transaction costs by shifting responsibilities such as cleaning, sorting, grading and packaging to the farmers. From the farmers' perspective, additional functions performed by the farmers helped them to realize higher returns compared to the non-suppliers. Moreover, the consolidation centre provides information on "good agricultural practices" to farmers to ensure optimum use of resources with minimum use of pesticides. Supplying fresh produce to the consolidation centre enables the farmers to reduce the market risks and transaction costs. The linkage thus proves to be a win-win situation for both farmers and the retail chain.

Contrary to the trend noted in other studies in this volume, the farmers supplying fresh produce to Spencer's consolidation centre are found to be larger compared to their traditional counterparts. The access to irrigation facilities is set as a prime criterion for supply of fresh produce to the consolidation centre, leading to the exclusion of asset-poor small and marginal farmers. The logistic regression exercise indicates that education, access to transportation facilities and area cropped under vegetables are positively related to the participation in the consolidation centre, lending credence to the hypothesis that small and asset-poor farmers risk exclusion from such modern agri-food systems.

The chapter by *Nilabja Ghosh and Anand Vadivelu* evaluates the impact of emerging forward and backward linkages in the modern agri-food system on the welfare of farmers, using primary data from farm households in three states of India. The study notes that there is no uniform pattern, as the costs incurred and benefits received by the farmers may vary, depending on the role and services performed by them in the supply chain. Farmers receive higher net prices from selling their fresh

produce to the supermarket channels even after accounting for rejection and wastages. The quality orientation of the supermarket farmers ensures that they receive better prices of even the produce rejected by the supermarket collection centre.

The diffusion of supermarkets is not benefitting all farmers. Exclusion of small and marginal farmers are evident in all three states, with a lower proportion of small farmers being found among the participants in the supermarket channel compared to those in the traditional marketing channel. The study also notes that the exclusion of farmers from the disadvantaged section in the supermarket channel remain a concern in the agri-food system. As a policy implication, the study also calls for allocation of public funds to improve the marketing facilities in APMC to ensure the presence of multiple players for the larger benefits of the farming community.

The case study by *Sangeeta Shroff, Kalamkar and Jayanti Kajale* on an input company Deepak Fertilizer and Petrochemicals Ltd. (DFPCL) shows how a vertical linkage, initiated by an input company, helps the farmers to meet the exacting standards demanded by organized retail chains. The company helps the member farmers to meet the Global Gap Certification by providing them the complete package of extension services that include soil, water, plant testing facilities and crop nutrition management that the company draws on from its own range of plant nutrients. The farmers linked with the fertilizer company managed to obtain the Food Certification B.V—a Holland-based certification body, enabling the farmers to access more lucrative export markets in the USA and European countries.

The case study of pomegranate shows that the benefits derived by farmers from their association with DFPCL are manifold. Association with the DFPCL all the way up to retailing has resulted in higher share of farmers in the retail prices. The farmers associated with the company received 71.60% of the retail prices compared to 46.50% of the prices received by the farmers who sell their produce in the traditional market. The prices of pomegranate, when compared across marketing channels, though without accounting for the better quality procured by DFPCL, shows that the prices received by the farmers from the company are 1.7 times the prices received by them when the produce is sold in the traditional marketing channel. Moreover, farmers selling pomegranate to DFPCL incur little or no marketing costs that compare with ₹ 330 per quintal incurred by farmers when they sell in the traditional wholesale markets. Apart from that, the provision of better storage structure, transportation facilities and packaging, all arranged by DFPCL have reduced the wastage of pomegranate, a crop that is subject to huge postharvest losses.

In an interesting finding, the study also notes that extension services provided by the company have higher impact compared to those provided by agricultural universities, as evident in higher yield and higher weight of the fruit produced by the farmers associated with the company. The study recommends that solutions involving backward and forward linkages of the input company be expanded to improve the competitiveness of the horticultural sector while ensuring higher returns for the farming community.

### ***1.3.5 Linking Small Farmers to Modern Supply Chain Through Farmer Producer Organizations (FPOs)***

The likely exclusion of small farmers from modern chains calls for innovations that can help them overcome problems of scale, transaction costs, risk in financial transactions and lack of voice in policy process (Shepherd 2007; World Bank 2007; Vorley et al. 2012; Chand 2012). Producer organizations (PO) are seen as a key way for producers to engage in markets. Due to the logistical challenges of working with a large number of individual smallholders, organized retailers often prefer to engage with organized groups of smallholders. Thus, many companies choose to procure from pre-existing, formally registered producer cooperatives or other formal POs, including those initiated by private actors in the supply chain and therefore, encouraging formation and operationalization of producer organizations is the key to successful participation of small farmers in modern supply chains. Two chapters in this section delve into related issues in India.

In the background of growing asymmetries in the agri-food system as a result of high degree of concentration of market power among retailing and input companies and withdrawal of governments from agricultural marketing and extension, FPOs are given prominence to help the resource-poor farmers to cope up with the rising tide of market fundamentalism. *Anika Trebbin* expounds this conceptual framework in her chapter in giving the driving force for the rise of FPOs and looks at the current state of producer companies in India as well as modern food retailing in the fresh foods segment. The chapter then examines current links between the FPOs and supermarkets. The new types of FPOs are outward-oriented with main purpose of performing a bridging function and act more as interface structures between their members and the external world and run in a more professional way. In 2014, there are 463 producer companies in 27 out of India's 36 states and union territories and half of them in only four states viz., Madhya Pradesh, Maharashtra, Tamil Nadu and Gujarat. More than two thirds of all producer companies are active in agricultural activities and 25% are engaged in postharvest processing. There are very few examples of modern retailers sourcing from producer companies so far. The relatively new emergence of these companies and lack of directed support can be the reasons for this, besides low level of supermarket operations. The entry of foreign players might change the scenario, as foreign retailers may find capable business partners in producer companies. The outlook can become positive as the producer companies reach the stage of stability and maturity with more time. Also, they can deal with agri-inputs, where the margins are high and can also aim to sell directly to consumers, export markets or can also open their own retail outlets, instead of selling only to supermarkets. Regarding the entities that are best suited to promote producer companies, experience so far suggests that a mixed consortium of NGOs, input suppliers and potential buyers might be a possible solution to ensure a balance of interest between welfare and business orientation. Finally, the author suggests that the government may in future consider including a clause in the legislation to make it mandatory for the supermarkets to buy a certain portion of their procurement from producer companies.

*Amar KJR Nayak* analyses the organizational design issues of these organizations in the country from an all-India baseline survey of 258 POs with a focus on producer companies including the detailed case analysis of 21 POs during 2011–2014 and an action research on developing sustainable POs during 2007–2014. While there have been budgetary commitments, extension of support, and legal provision for producer companies during the last 10 years by the government, development agencies and civil society organizations, the performance of the POs has been much below expectations. The financial gains to producer members have not been significant with only ₹ 1492 per member per month and a net income of ₹ 480 per member per month<sup>9</sup>. The author focuses on the status of internal organizational design of POs viz., size, scope, technology, governance and ownership for greater cooperative action and sustainability and argues for the need of simultaneous design of the aforementioned five organizational design parameters.

## 1.4 Conclusions

The agri-food chains in the country are in a rapid transformation stage and have been broadly moving in the historical patterns observed in the other developing and developed countries with some unique features. Changes in incomes, consumption and work patterns driven by economic development propel this food chain transformation in the country. The retail end of the supply chain acquiring elevated significance is typical of the transformation across the world, and in that sense demand-driven chains replaced the earlier supply-driven supply chains. The new age consumers representing the aspiring Indians have been welcoming these changes and increasingly making these shopping habits a norm. Thus, a new norm in shopping is being created and it may well stay like in other countries. Though these changes are inevitable with the society reaching higher level of development and not necessarily bad per se, they must be subjected to rigorous and dispassionate research for obvious points of policy interference for the benefit of the farming community dominated by small farmers and also consumers.

The food policy of the country focused for a long time on producing more and distributing at a low cost to fight extreme poverty and starvation. Marketing of food products has not been given much significance in the policy formulation except restricting the movement across states to control vested interests, imposing stocking restrictions under the Essential Commodities Act, and fragmenting the entire country into small areas under state controlled marketing zones. All of this essentially depressed private initiatives and investments in agricultural marketing and related infrastructure. The gradual liberalization of the sector coupled with the recent decision on FDI and rise of organized retail has the positive impact of correcting the

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<sup>9</sup> However, in a study conducted among 516 members of five producer companies in Madhya Pradesh established by the District Poverty Initiative Programme of the state government, Purushotham (2012) found that the average total economic benefit realized was of the order of ₹ 3204.

earlier neglect of agricultural marketing. Most importantly, investments are increasing in scientific storage including grain storage, cold storage, refrigeration, grading, packaging and related infrastructure.

The debate overwhelmingly focused on the FDI and its fallout, while in reality organized retail has been spreading out at double the speed of the traditional marketing channels. Given the strong investment capabilities of domestic private players, full-scale liberalization might not have as dramatic impact as in the Latin America or East Asia. Nevertheless, the entry of foreign players might increase competition, professionalism and better service in terms of passing on the price margins to the consumers catapulting the organized retail to successfully graduate to the tier II and tier III cities and to the people with lower income levels. However, the most pressing issues from the standpoint of the country's agriculture are whether the backward linkages help farmers in terms of higher net returns? Whether majority of the small farmers can access these markets especially when standards and contracts are enforced? Whether these supermarkets procure locally? Whether the imports become the norm as in some of the smaller countries? What kinds of technology do they encourage? Will there be huge environmental costs with the resource-intensive methods? What impacts will they have on food supply, food prices, employment, poverty, and women? These are some of the questions researchers will have to grapple with, as the supermarkets diffuse in the country.

The present volume draws on some fresh evidences from both India and abroad to contribute to a more informed debate on the likely impact of supermarket diffusion on smallholders in the Indian context. All the case studies presented in the volume show that the farmers get higher returns by selling to the supermarkets. The problem, however, lies in inclusion of resource-poor farmers in the phenomenon. As for the case studies on international experiences documented in this volume, the evidences from China and Kenya show that the participation of smallholder farmers in the supermarket channel is possible, provided that the government plays the role of a catalyst by making better policies and better provision of infrastructure to improve the competitiveness of smallholders. Moreover, poor smallholders may benefit through their participation in the labour market as the farmers that supply to the supermarket chains may hire more labour to meet the exacting standards demanded by the supermarket chain. Within India, the studies on procurement pattern followed by supermarket chains such as Reliance and Mother Dairy in North India report successful participation by smallholders. However, the case study of Spencer's supermarket chain in the southern state of Karnataka shows a trend towards the exclusion of smallholders, particularly those who do not have irrigation facilities.

The evidence emerging from this volume is thus mixed, indicating that the question of whether smallholder cultivators manage to participate in the supermarket driven agri-food system is context-specific and may well be conditioned by geography. However, all the case studies have taken note of continued dependence of farmers on traditional wholesale market. Moreover, most supermarket chains set their prices using the prices in the traditional wholesale market as the reference price, indicating the latter's importance for a competitive agri-food system. That apart, procurement by supermarket chains is often limited, leaving the farmers with

the remaining produce to sell elsewhere. All in all, the government cannot shy away from its responsibility towards undertaking investment in the better provision of infrastructure in the traditional wholesale markets to promote a more inclusive agri-food system.

The government can encourage innovative institutions such as small producer companies (SPC) to empower the smallholders and facilitate their participation in the supermarket-driven marketing channel. The government of India amended the Companies Act in 2002 to make it possible for the farmers to register as companies with the benefits of both cooperatives and companies at the same time<sup>10</sup>. However, their progress is not as impressive as expected and very few of them could forge links with supermarket procurement operations, as brought out in the two chapters included in this volume. It calls for concerted action to enable the resource-poor farmers to reap benefits as members of producer companies. Special attention is called for addressing issues of access to working capital and credit by considering proposals like putting these companies on equal footing with companies and according some of the benefits of cooperatives like tax incentives for the initial set-up period and leveraging credit from some of the government sources like the National Cooperative Development Corporation. Formation of a large number of producer companies and their sustenance can no doubt be a tool for strengthening the bargaining power of small farmers vis-a-vis the rising power of retail behemoths as we find in some of the other countries, where companies like Walmart are forced to work with cooperatives for their procurement operations.

Innovative interventions have to be planned by understanding the dynamics of beneficial inclusion in other developing countries. The successful inclusion is facilitated by access to better education and higher asset position. Experience in Kenya reveals that the government on its own or in collaboration with the private players and NGOs can step in to facilitate participation of disadvantaged farmers by making better provision of infrastructure and transportation and credit facilities. The Chinese government succeeded in encouraging cooperatives by exempting VAT on produce procured from the farmer cooperatives. They also encouraged direct procurement by providing investment support for construction of distribution centres, cold storages and facilities for testing products procured directly from the farmers. The central government needs to mull over these issues.

The government should formulate regulations that act as guidelines on the retailer–supplier relations to promote fair commercial practices. There has to be a greater level of preparedness in terms of producer institutions, regulations and well-tailored incentives for inclusiveness in the agri-food system. India need to tread cautiously and formulate rules using the lessons learned from Western countries as well as other developing countries from South-East Asia, Africa and Latin America to get the maximum leverage from such investment without compromising on the issues of livelihoods of people engaged in both retail and farm sectors.

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<sup>10</sup> Though a new Companies Act, 2013 was formulated, provisions of Part IX A of the Companies Act, 1956 shall be applicable mutatis mutandis to a producer company in a manner as if the Companies Act, 1956 has not been repealed (Ref. section 465 of Companies Act 2013).

The enormous size of the retailing behemoths vis-a-vis the traditional retail and the small and medium enterprises in the procurement of goods and services can lead to unfair advantages to the retailing giants, both local and foreign. This can have adverse consequences for the consumers, small producers and traditional retailers and the society in general. Therefore, Indian competition laws have to be reviewed after carefully studying the experiences of other developed and developing countries. For example, USA has a Robinson–Patman Act since 1930s to provide a level playing field to the traditional retailers in procurement. Zoning restrictions and other similar suggestions may be considered depending on local conditions, on a case-by-case basis.

Nevertheless, the most important intervention from the government can be to strengthen and help the traditional retailers in modernizing and systematizing their businesses to provide better services to the consumers and withstand competition from the organized retail. As the 68th round of the National Sample Survey Office (NSSO) data revealed that food retail and total retail employ 18 and 32 million people respectively, the state needs to act quickly to assist them in the transition by providing incentives for modernization, enabling laws and training. Independent research with bigger primary data sets representing diverse agro-climatic and socioeconomic contexts in the country can help to understand the phenomenon better, regarding the diffusion and also outcomes for the farming sector. Such kind of dispassionate research with policy suggestions can also help to reshape the outcomes through state interventions.

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**Part I**  
**Policy Perspective**

## Chapter 2

# Modern Organised Retail and Its Impact on Agriculture

C. Rangarajan

We would prefer to use the term ‘modern organised retail’ to what has been referred to as ‘organised retail’, as traditional retail is also organised but perhaps in a different way as compared to modern retail. The present system of retail has been able to reach out to millions of consumers not only in the urban areas but also in the remote villages. The essential difference between traditional retail and modern organised retail is that in traditional retail, marketing passes through a number of intermediaries, whereas modern organised retail follows the practice of direct procurement or procurement through big procurement agencies.

Modern retail in all commodities in 2008 constituted about 4% of the total retail in India, while in the food and grocery segment the ratio was less than 1%. It is, however, projected that if the current trend of high growth rate in this sector continues, retail in food and grocery segment could rise to up to 15–20% of the total retail. According to a report by BCG and CII (2011), in the last 3 years modern retail has grown at the rate of 24% as against traditional retail which grew at the rate of 10–12%.

If we look at the supply chain, the stakeholders in the chain would be the consumers, retailers, processors, wholesalers, commission agents, logistics providers, and primary producers or farmers. Other entities such as input dealers, bankers, and insurance companies support the supply chain in various ways. The growth of modern retail impacts all stakeholders—some positively and some negatively. The calculation of gains and losses is often complex and difficult. However, the ultimate test is the impact it has on producers and consumers.

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## 2.1 Forms and Aim of Organised Retail

Modern organised retail can take several forms, from small neighbourhood stores (like Mother Dairy outlets) to air-conditioned malls (like Big Bazaar). The aim of modern organised retail should be to offer better prices to both consumers and producers and to reduce the gap between the two. Modern retailers are able to offer better prices to consumers and producers because of the economies of scale in procurement, handling, and logistics.

The main demand-side factors driving the rise of super markets are rising incomes, a burgeoning middle class, greater participation of women in the work force, and increasing urbanisation. Big modern retail chains tend to begin operations in large cities and then move onto intermediate towns and rural areas which are more price sensitive. They focus first on high-income customers and then move onto middle- and low-income customers. Similarly, they first begin operations with the marketing of processed items, and then move on to semi-processed and then fresh items.

## 2.2 Consumers and Modern Retail

The Indian consumer spends more than half of his expenditure on food items. Here, it is worth noting that the prices of vegetables, fruits, milk and eggs, meat, and fish have been rising faster than cereals. This is so in spite of the fact that India is the second highest producer of fruits and vegetables (about 200 million t p.a.) producing 17 and 14% of the global total vegetables and fruits, respectively. The existing channels of trading perishables are restricted by (a) the application of the APMC Act to perishables in many states, and (b) shortage of adequate cold storage facilities. For fruits and vegetables, the price at the first point of sale in large *mandis* as a proportion to the final retail price is in the range of 25–40%.

Modern retail has been found to offer better prices to consumers than traditional retail, thus helping to contain inflation. The supermarket chains build regional and global procurement networks which reduce costs, they de-seasonalise offering and increase product diversity. Modern retail also helps in conveying consumer preference to the producers. This helps producers in channelising their resources towards production of those crops/items that would guarantee them reasonable returns. Modern retail also ensures quality and safety standards for different products for the consumers. Thus, modern organised retail out competes traditional retail on price, variety, and quality. They offer greater convenience and better shopping environment to the consumer.

The main concerns that emanate from modern retail are the possible displacement of middlemen (and their consequent unemployment), and the implications of the new channels on the farmers' wellbeing. The chief merit of a good distribution system is to ensure that the benefits of increasing demand are passed on to the

farmer. At the same time, the benefits of higher production and productivity must accrue to the consumer.

### 2.3 Impact of Organised Retail on Traditional Retail

An overwhelming percentage of food and grocery being sold in this country is through traditional retail outlets such as kirana stores, street hawkers, and wet market stall operators. Once the share of overall modern retail in food reaches about 25–30%, it is bound to alter the way the traditional channels of retail function. These kirana stores, street hawkers, etc. can also become a part of the modern retail change story if they (a) can be assimilated into organised retail; (b) are upgraded through infusion of capital, better training, etc.; and (c) can organise themselves under their banner through franchises, etc. The existence of large retail chains even in advanced countries has not wiped out the small shopkeepers or what are called ‘Mom and Pop’ stores. They retain a personal touch which is absent in large retail outlets. Also their proximity to where people live is a great advantage.

### 2.4 Farmers and Organised Retail

The experience of other countries in organised modern retail of food shows that processed food occupies the largest share of retail (roughly 65%), followed by semi-processed food (about 20%), and fresh food (about 15%). Farmers are increasingly realizing the gains from not only direct links to organised modern retailers but also to processors. A study commissioned by the World Bank in 2007 showed that in India the average price received by the farmer in a typical horticulture product is only 12–15% of the price paid by the consumer. It has also been found that there is a wide disparity in the prices of horticulture products across markets in the country. For instance, on the basis of available data, the mandi prices for brinjal averaged ₹ 1187 per quintal in December 2010. However, prices aggregated by states ranged between ₹ 342 (Uttarakhand) and 3554 (Tamil Nadu) per quintal and the coefficient of variation was 62%. It may be recollected that in the winter of 2010–2011 there was a most unusual runaway price increase in vegetables which began with onion but rapidly spread to tomato, brinjals, and other items. However, even in December 2009 where seasonal price behaviour was normal, while the average price was ₹ 541 per quintal, the range was between ₹ 242 (Madhya Pradesh) and 2223 (Tamil Nadu) and the coefficient of variation was 62%. Thus, the emergence of modern retail will cut the middle men out of the chain thereby giving better remuneration to the farmers as their bargaining power goes up. However, modern retailers tend to procure more from large farmers. Hence, gains from modern retail go to a privileged section of farmers. Therefore, there is a need for farmers to organise themselves into groups or clusters so that they can maximise their bargaining power with modern retail chains.

## 2.5 Cooperatives and Organised Retail

The success of Amul and Mother Dairy clearly bring out how organised retail can be very beneficial not only to the consumer but also to the farmer. Operation Flood pioneered by Dr. Verghese Kurien changed the entire dimension of the dairy sector in India. The National Dairy Development Board (NDDB) has transformed India from a nation suffering milk shortage to be the largest producer of milk in the world. The processing units procure milk from dairy cooperatives, chill and homogenise the milk, and sell it through their retail outlets which have wide spatial and market penetration. These retail outlets under recognisable brand names carry a lot of credibility with the public. This model is worth emulating in other agricultural products. Safal is an example of successfully organised retail of fruits and vegetables.

## 2.6 Contract Farming and Organised Retail

Various International Food Policy Research Institute (IFPRI) studies (on Mother Dairy, Nestle, and Venkateshwara Hatcheries) have shown that contract farmers earn higher as compared to noncontract farmers. Contracting reduces cost of production by cutting down marketing and transaction costs. Contracting also gives them access to global markets as against local markets which offer them the best prices. An IFPRI study on Mahagrapes done in 2006 found that annual profits earned per acre by the contract growers was 38% higher than the noncontract growers because Mahagrapes caters to the global markets as against noncontract workers catering to the local markets.

Modern retail also helps farmers learn about consumer preferences. This enables them to diversify into the more remunerative crops. Clustering of farmers into viable size enables farmers to match their supplies with the type and size of demand. Farmers gain twofold when they sell to organised retail: (a) they get better prices than what they would otherwise get for the same produce; (b) there is minimal wastage as procurement agencies have the wherewithal for timely lifting the produce and storing it in ideal conditions, for offloading it into the market in future, or for exporting it to other destinations.

In a study done by Ghosh and Vadivelu in the Mother Dairy outlets in Solan district of Himachal Pradesh, it was found that the farmers selling to Mother Dairy bore 30% of the marketing costs as against 65% borne by the farmers selling via the traditional retail route.

## 2.7 Markets for Agricultural Commodities and APMC Act

Most vegetables and fruits are currently marketed through transaction systems governed by the Agriculture Produce Marketing Committee (APMC) Act regulations. Market yards or *mandis* set up under the act are supposed to play a vital role in price

discovery by creating an environment where there is a free play of market forces of supply and demand and transparency in transactions. It was started as a protective regime for farmers to enable them to secure fair prices.

However, the supply chain in the *mandis* involves a large number of intermediaries between farmer and consumer, namely a sequence of commission agents and traders at the wholesale level and the retailer. At every stage, there is a price mark-up and delay due to transportation, packing/unpacking, market charges, etc. Both the wholesaler and retail traders have to buy farm produce from the *mandis*. Similarly, farmers have to sell in the *mandis*. However, many *mandis* are dysfunctional and maybe even nonexistent in practice. The *mandis* have not encouraged the cleaning, sorting, grading, and packaging of agricultural produce before sale by the farmers. Thus, the APMC regulations have had some undesirable consequences.

In a bid to provide more competitive choices to farmers and to encourage private investment, the Ministry of Agriculture circulated a Model Act in 2003 amending certain portions of the APMC Act. These reforms deal with direct marketing, contract farming, and markets in private/cooperative sector. Seventeen states have already amended the APMC Act as per the provisions of the Model Act. Some others have made modifications only through administrative orders.

The 12th plan Working Group on Horticulture and Plantations is of the view that certain common standard operating procedure (SOP) for all markets, i.e. the modern and regulated markets under APMC Acts, must be introduced. As against the 12th Plan Approach Paper, the 12th plan is not in favour of removing perishables from the purview of the APMC Regulations. However, I do believe that there is a strong case for removing perishables from the purview of APMC regulations as the nature of the commodity requires speedy transaction in order to minimise wastage. It would be in the best interest of the producer either to conclude the transaction speedily or to keep the produce in cold storage till he can earn a more remunerative price. Two examples of direct marketing from producers to consumers are Rythu Bazars in Andhra Pradesh and Shetkari Bazar in Maharashtra. These markets have enabled both ends of the supply chain gain better prices and the delivery of fresh produce to the consumer.

Direct marketing of produce to modern organised retail networks also helps the farmer in getting a better price than through *mandis*. Regular supply agreements with groups of farmers and modern retail outlets will help farmers have an assured minimum income besides cutting down on wastage, transportation costs, and providing fresh supply of food items to consumers.

## 2.8 Modernisation of Procurement Systems

Modernised procurement systems form the base on which successful organised retail system operates. The traditional logistic systems suffer from various inadequacies, namely (a) multiple handling of produce, inadequate cold chains leading to high wastage; (b) institutional shortcomings flowing from the existing APMC Act has perpetuated a framework with uncompetitive and non-transparent markets; and

(c) inadequate processing facilities. The weakness in the food logistics system has led to temporary shortages which have resulted in the rise in prices.

The existence of an efficient cold chain storage network is a prerequisite for an effective market in horticultural commodities. The number of cold storages has increased from 600 in 1965 to 6284 in 2012. The installed capacity in 1000 million ton has increased from 682 to 29,305 over the same period. In terms of spatial distribution, north India accounts for 47% of the total number of cold storages and 52% of the capacity of cold storages in the country.

Uttar Pradesh followed by West Bengal has the highest number of cold storages in the country. In spite of the substantial growth in the number of cold stores, they fall woefully short of their requirement. Cold storage facility is available for only around 10% of fruits and vegetables. An investment of about ₹ 14,000 crores may be required during the 12th Plan to suitably augment the existing storage capacity. A further investment to the tune of ₹ 22,000 crores will be required in order to extend cold storage facilities to 25% of the fruits and vegetables.

Seventy-five percent of the cold storage capacity is used to store potatoes, while only 23% fall in the multiproduct category. Cold storages for meat, fish, and dairy items, and for other items such as chillies and other spices account for only 1% of the total cold storage capacity. Further enhancement in the cold storage capacity would be very beneficial to both the farmer and the consumer as it minimises wastages, provides fresher and off-seasonal food items to the consumers.

Modernised procurement systems reduce costs and improve product quality. The catchment area of such procurement agencies may be at a national, regional, or global level. They shift from reliance on traditional wholesalers to nontraditional, specialised wholesalers and logistics firms. They enforce private standards on behalf of supermarkets. Normally, the modernisation of procurement systems of processed products precedes that of semi-processed and fresh foods. However, this pattern may be reversed in developing economies like India.

In order to strengthen backward integration, procurement agencies should not only connect with farmers for output but must help them in providing critical inputs like finance, insurance, technical expertise, storage facilities, etc. This would enable farmers to become more competitive both in national and international markets. Thus, supplying to supermarkets can be a springboard for exports even to small and medium farmers.

## **2.9 Uttarakhand Example of Modern Retail vis-à-vis Traditional Retail**

The IFPRI and the Asian Development Bank (ADB) published a research report in 2009 regarding certain issues in traditional value chains of high-value crops in Uttarakhand. It was found that farmers faced transaction costs that are between 25 and 38% of the price paid by the retailer in the wholesale market. The report also



brought out the example of how modern food retailing in collaboration with NGOs had transformed the cultivation and livelihood patterns for the Rawain Valley to the north of Dehradun. Establishment of local collection centres led to a dramatic rise of cultivation of off-seasonal vegetables from 5 to about 50%. The condition of both the farmers as well as the consumers improved, and both got better prices.

## 2.10 Modern Retail and International Trade

As already stated organised modern retail acts as a spring board for even small and medium farmers, and industry. Global retail chains procure globally. They offer domestic producers the window to sell their products in the global markets at the best prices.

## 2.11 FDI and Retail

In January 2012, the Government of India (GOI) approved reforms in single brand retail with 100% foreign ownership, with the requirement that 30% of the goods should be sourced from the local suppliers (SMEs, artisans, etc). This backward linkage has been put in place to ensure that the interests of the small players are safeguarded. The bigger reform announcement which would give a substantial boost to the retail sector is the government decision to allow FDI in\*\* multi-brand retail upto the extent of 51%. This decision would also lead to a commensurate growth in related infrastructure as 50% of the total FDI brought in has to be invested in 'back-end infrastructure' within 3 years of the induction of FDI. Back-end infrastructure includes processing, manufacturing, distribution, design improvement, packaging, quality control, logistics, storage, warehouse, and agriculture market produce infrastructure. Many farmer organisations such as the Bharat Krishak Samaj and Maharashtra Rajya Shetkari Sangathan have welcomed this decision of the government. The modern retail will give an alternative to the restrictive auction system in the *mandis*. As mentioned earlier, the fear that this could result in large-scale replacement of small retailers is misplaced. India is a vast country; there will be place both for large as well as small retailers. Each has its own advantages. There can in fact be a mutually beneficial impact.

Modern retail in the country is at a nascent stage and is evolving in terms of scale of operations, store format, and merchandise mix. The traditional systems and modern retail chains are complementary to each other and their coexistence is important for each other's functioning while providing options to producers and consumers.

# Chapter 3

## Contribution of Organized Retailing to Agricultural Distribution System: Prospects and Challenges

R. K. Mishra, P. Mahesh and Srinivas Kolluru

### 3.1 Introduction

The retail revolution of the 1990s led by firms such as Walmart, Costco, TESCO, Giant, Makro, Carrefour, Aeon, Ahold, Aldi, Metro and others was a result of the developments in advanced economies with respect to the availability of cheap capital, huge economies of scale in retail trade, increasing purchasing power of consumers, highly efficient sales forecasting techniques, developments in logistics and supply chain management, growth of the suburban population and spread of consumerism across all classes (Gereffi 1994; Arnold and Fischer 1994). Over the years, India's organized food retailing has undergone rapid transformation. There are many issues in organized retailing, which make India a special case among developing nations, in terms of market share, demographic profile, market development, market potential, pricing strategies, floor and back-office management and the crying need for a healthy public policy. Organized retailing started in India in 1990s. The country is witnessing a high growth rate of 30–40% per annum in organized retailing in Tier I and Tier II cities. This explosion of organized retailing has resulted in domestic and international players to focus more on rural areas, which comprise about half of the domestic retail business in India.

In recent years, food consumption patterns are changing rapidly in India due to factors such as rising income levels, urbanization, increasing employment opportunities for women in the formal sector and, of course, globalization. Due to increased disposable income, people are eating staple cereals less and consuming high-value

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commodities more such as processed foods, vegetables, fruits, dairy products, fish, meat and eggs. This led to increasing agricultural diversification to meet the demand for these commodities. Also, a change has been observed in the traditional supply chain for the production, processing, marketing and distribution of agricultural commodities. Innovative institutional models are emerging in agribusinesses for the development of more efficient and value-added supply chains. These new value chains include fewer participants but involve a high degree of coordination and integration among different players. Especially in organized food retailing, the food retailers (super markets) have emerged rapidly and are playing a dominant role in linking producers and consumers.

The available research on the topic pointed out a holistic value-based supply chain (linking producer and end consumer) and the revamping of the current food aggregation and distribution infrastructure that better serves local and small to mid-sized producers. Hardy and Holz-Clause (2008) analysed that increasing consumer demand for food and grocery and food from smaller scale agricultural operations coupled with a lack of viable marketing outlets for consumers to access this kind of food was one primary reason cited for this need. Masi et al. (2010) and Hoshide (2007) averred that the lack of a robust distribution network and access to sufficient markets led to many producers, particularly mid-sized ones, to underutilizing production capacity.

### **3.2 Objectives of the Present Chapter**

The following objectives of the present research are threefold: (i) to analyse the problems and perspectives related to agri value chain, retail infrastructure, distribution infrastructure, retail policies and regulations, foreign direct investment (FDI) and technological competencies; (ii) to study how organized retailing can strengthen country's agricultural distribution system; (iii) to investigate empirically the relationship between the growth of the organized food retailing and GDP along with per capita income growth, investments, openness of the economy, urban population growth, swifter movement of goods, etc.

### **3.3 Data Sources and Research Methodology**

The study makes use of secondary data collected from various sources. The principle sources for this research include industry reports, academic journal articles and popular studies on the topic. Ebscohost's Business Source Premier, Emerald Insight and EconLit, JSTOR (online periodical databases) were used as the primary information sources in obtaining peer-reviewed academic and practitioners' journals. The popular studies on the topic have been obtained from the websites of Asian Development Bank (ADB), the World Bank, National Bank for Agriculture

and Rural Development (NABARD), Central Statistical Organisation, etc. Simple ordinary least square regression technique has been used to understand how growth in GDP, GDP per capita, etc., has impacted the growth of food retail in the country.

The chapter is organized into five sections. Section 1 starts with a brief profile of the food retailing industry in India. Section 2 covers the current and new supply chain arrangements and their impact on organized food retailing. Section 3 empirically analyses the impact of GDP, GDP per capita and other factors on the growth of organized food retailing. Section 4 highlights the technological competencies, regulations and FDI in this sector. Finally, Section 5 puts forward the conclusions with some policy implications.

### 3.4 Evolution and Developments

#### 3.4.1 Evolution of Indian Retail

Organized retailing in India has typically passed through four distinct phases in its evolution cycle. In the first phase, new entrants created awareness of modern formats and raised consumer expectations. In the second phase, consumers demand modern formats as the market develops—thereby leading to strong growth. In the third phase, as the market matures, intense competition forces retailers to invest in back-end operating efficiency. In the final phase, retailers explore new markets as well as inorganic opportunities as growth tapers off (see Fig. 3.1).

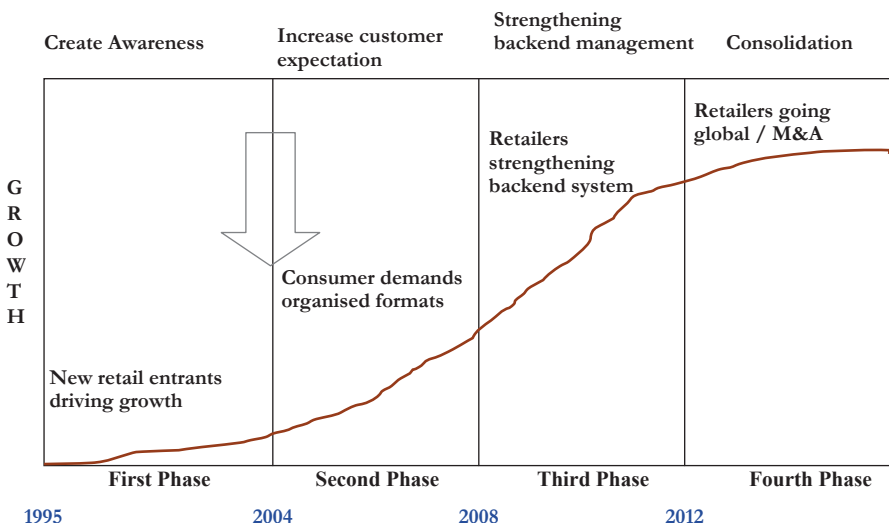


Fig. 3.1 Evolution model of organized retailing in India. (Source: Modified from KSA Technopak; Kiran and Kolluru 2009)

**Fig. 3.2** Value of food retail in total retail (Rs. in crore) (Source: National Accounts Data, NABARD 2011)



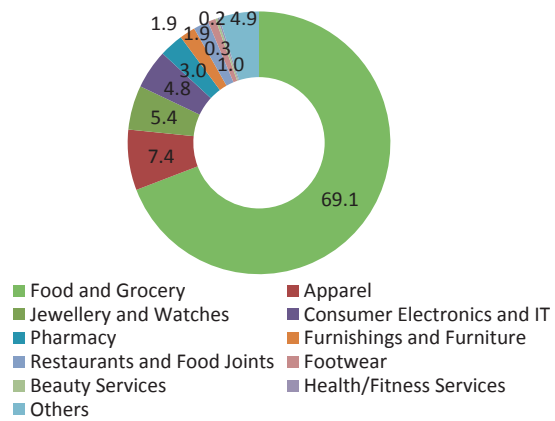
In India, things started to change slowly during 1990s, when India began opening its economy. India is currently in the fourth phase of retail evolution, with Indian customers becoming more demanding with the rising standard of living and changing lifestyles. Change in customers' focus from just buying experience to shopping experience (entertainment and experience) has led to a pickup in momentum in organized formats of retailing. In this phase of evolution, supply chain management plays a vital role. Fierce competition is forcing retailers to respond quickly to changes in the market—bringing forth the importance of supply chain management in managing stock availability, supplier relationships, new value-added services and cost-cutting.

### 3.4.2 *Organized Food Retailing: Current Scenario*

The retail business in India is estimated to grow at 13% per annum from US\$ 322 billion in 2006-2007 to US\$ 590 billion in 2011-2012. The unorganized sector is expected to grow at about 10% per annum, while the organized retail is estimated to grow at 45–50% per annum during the same period (ICRIER 2008). However, the organized retail constitutes only around 4% of the total retail sales in the country, compared to 75–80% in developed countries such as the USA, Japan and the UK. In India, the organized retailing is spreading fast, though the growth is currently focused around cities and Tier I and II cities. Food and grocery (F&G) constitutes the bulk of Indian retailing and its share is more than 60% (Images 2008). The organized retailing accounts for about less than 2% of the food retailing industry in India. However, the share of the organized retailing in the food and grocery segment could grow to 15–20%, if the current trends in expansion of organized retail continue (Reardon and Gulati 2008; Figs. 3.2 & 3.3).

Reardon and Hopkins (2006) and Reardon and Berdegue (2007) pointed out that organized retailing has taken off in developing countries like India in three successive waves in the years between the early 1990s and the early 2000s. Timmer (2005) analysed that the emergence of modern supply chains transformed the organized food retail markets in India. While exploring the drivers of rapid organized food

**Fig. 3.3** Share of food retail in total retail, 2011 (Source: Ernst & Young 2011)



retail growth in India in particular and developing countries in general, Reardon et al. (2003) indicated that the same factors that contributed to the spread of organized food retailers in developed countries 50 years ago were still responsible for the same phenomenon in developing countries like India including market liberalization, the flood of FDI available after the 1990s, saturation of supermarkets in home-based markets, the greater availability of procurement and logistics technology, and declining transport costs. In addition, the emergence of regional agrifood chains with the disappearance of regional trade barriers, rise in institutions that encourages regional integration and greater numbers of important regional players also had important implications for agricultural production and innovation systems (Thomson and Cowan 2000).

### 3.4.3 Organized Food Retail Infrastructure

The infrastructure related to agri distribution such as roads, railways, ports, etc., has been created by the government. In addition to this, a lot of private investment is also flowing in, creating agri supply infrastructure. In spite of the available massive stock of agri supply infrastructure, it has been observed from the literature that there is a huge gap in the existing and required cleaning, grading and packaging infrastructure in India. It is estimated that about 7% of food grains, 10% of spices and about 30% of fruits and vegetables produced in the country are lost before reaching the markets.

The storage at market and other levels of food distribution are dominated by the public corporations: Central Warehousing Corporation (CWC) and State Warehousing Corporation (SWC). This challenge can be addressed by the scale of warehouse facilities available in India is very less and there is a need to bring in further investments in the sector. The 11th Plan says that a further capacity of 35 million t should be created in the warehousing sector by 2012 (Table 3.1).

The study conducted by NABARD (2011) reveals that the current average per square feet sales for typical retailers is around ₹ 5000–8000/ft<sup>2</sup>/year. Thus, for a

**Table 3.1** Capacity of different types of warehouses in India

Sr. no.	Type of warehouse	Capacity (in million metric tonnes)
1	CWC	8.5
2	SWC	20
3	FCI	16
4	Private warehouses available for hire (estimated)	12
5	Private warehouses used for self use (estimated)	20

Source: NABARD 2011

**Table 3.2** Retail space requirement for organized agrifood retail

Year	Sales per sq ft	Space in million square feet for F&G	
		Most probable	Expected
2009–2010	7350	23	23
2010–2011	7718	25	25
2011–2012	8103	27	27
2012–2013	8509	30	29
2013–2014	8934	32	32
2014–2015	9381	35	35
2015–2016	9850	38	37
2016–2017	10,342	41	41
2017–2018	10,859	45	44
2018–2019	11,402	49	48
2019–2020	11,972	53	52

Source: NABARD 2011

sales value of ₹ 154 billion (value of F&G organized retail sales in 2008–2009), the estimated organized retail space requirement is about 22 million ft<sup>2</sup> at average sales of ₹ 7000/ft<sup>2</sup>/year. The increase in demand for space would depend on the increase in the F & G retail sales and the efficiency factor, which will reflect in sales per square feet. It is also reported that real estate would be the biggest challenge for the retail industry and many retail promoters have backward integration in real estate to have an edge in business (Table 3.2).

The warehouse requirement by various retailers varies from one half to one third of total retail space. The total F&G retail space stands at 22 million ft<sup>2</sup> in 2008–2009. Thus, the warehouse space for supporting this much F&G retail space is around 7.33 million ft<sup>2</sup>. The year-wise warehouse space requirement is presented in Fig. 3.4.

It is a common understanding among industry players that technology will play a pivotal role in the growth of the Indian retail sector. Retailers have now realized the importance of IT for their business operations, especially during an economic slowdown, and are in the process of streamlining their operations with IT adoption. Typically, the investment under IT is under software and hardware. Roughly, the IT investment in software by major players works out to be 1% of the total annual sales.

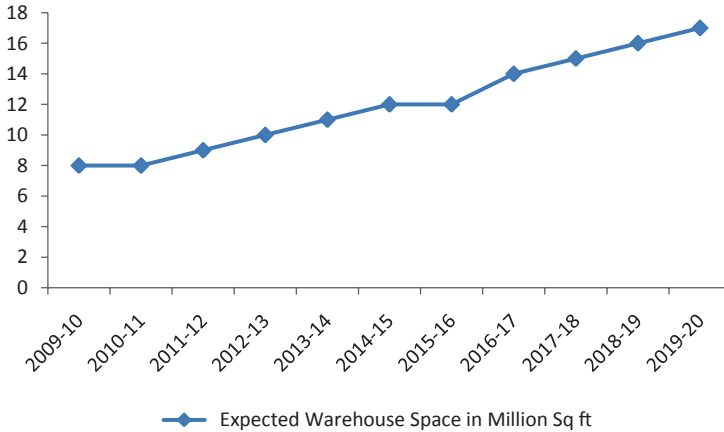


Fig. 3.4 Expected warehouse space in million square feet (Source: NABARD 2011)



Fig. 3.5 The different stages of market concentration (Source: www.regoverningmarkets.org)

Assuming on a conservative basis that 50% of the retail sales under organized retailing is IT integrated; the current investment requirement would be about ₹ 0.8 billion in the F&G sector. It is also estimated that in the next 10 years, the IT investment requirement for F&G retailing would grow up to ₹ 3.1 billion. According to Orane consulting, the current investment in retail technology service solution in India is ₹ 20 billion. It is expected to cross ₹ 50 billion in another 5 years with a Compound Annual Growth Rate (CAGR) of 40%. However, most of the IT investment is done by lifestyle and fashion, apparel, cosmetic, footwear, furniture and jewellery retailers.

The organized agrifood markets in India that are in transition are increasingly controlling upstream segments of the supply chain through contracts and sourcing networks by the organized food retailers such as supermarkets (refer to Fig. 3.5). Department of Industrial Policy and Promotion (DIPP) (2010) points out that India



has the advantage of a large middle class, increasing income levels, increasing share of organized retailing, improving distribution and warehousing technologies, increasing FDI inflows into the retail sector, initiation of new regulations pertaining to investment, etc., fostering the country's organized food retailing sector to transform itself from a highly fragmented one to a mature one in a short span of time.

### ***3.4.4 SWOT Analysis of Organized Food Retailing in India***

Analysis of internal and external factors plays an important role in the future planning of any sector. It provides the information that is helpful in understanding the food retail sectors resource mobilization and capabilities to the competitive environment in which it operates. It also helps in formulation of strategies for future growth and development of the sector (Table 3.3).

## **3.5 Innovations in Agri Supply Chains**

### ***3.5.1 Agri Supply Chains***

There has been a rapid transformation in the emergence of food supply chains in India. The emergence of rural and urban modern food retail led to the innovations in agri supply chains in India. The present research draws several important points from the research of Reardon et al. (2010) and Reardon and Minten (2011). Reardon and Minten (2011) highlighted three surprises concerning the rise of organized food retailing in India that make its path somewhat different from other developing countries' recent supermarket revolutions. First, government retail chains started in the 1960s and 1970s (Fair Price Shops, Public Distribution System). Second, cooperative retail chains were started in the 1970s and 1980s (Mother Dairy/Safal). Third, the rise of private retail chains in the 1990s and 2000s focuses on middle-class and domestic–foreign joint ventures.

Kumar et al. (2008) analysed that the entry of organized retailing in the Indian food sector has aroused serious controversy and emotional reactions. The analysis indicated that while the reaction is not unfounded, there will be more winners than losers in the process, and overall, the organized retail will be good for the country. They have also highlighted that the winners will be the farmers, processors, consumers in particular and national economy in general.

Agricultural products move in the value chain through different channels. The channels are distinguished from each other on the basis of market functionaries involved in carrying the produce from the farmers to the ultimate consumers. Length of a marketing channel depends on the size of market, nature of the commodity and the pattern of demand at the consumer level. Agri supply chain, basically, defines the number of intermediaries that connect the producer with the ultimate consumer in the value chain.

**Table 3.3** SWOT Analysis of Indian Food retailing sector

Strengths	Weaknesses
<p>In India, most of the organized food retailers have diversified into retailing from other businesses.</p>	<p>Indian organized food retailing industry does not have an established business model.</p>
<p>This high diversification supports the investment requirement of organized retailing business as well as absorbs business losses through their own funds.</p>	<p>India has huge diversity in food habits, buying pattern, customer attitude and the supply chain-related issues. This situation is leading to scale up and realize the much necessary economies of scale.</p>
<p>The parent groups normally have a robust balance sheet, which acts as a source of strength for the group, giving them the ability to negotiate funds with banks and institutions.</p>	<p>Lack of trained and motivated manpower remains one of the main weaknesses of organized food retailers in the country.</p>
	<p>The food retail sector heavily depends on rented infrastructure. Inability to control the rental cost element is a weakness that the industry has to encounter.</p>
	<p>High level of wastage and losses including store level shrinkage remains an important area of concern.</p>
<p><i>Opportunities</i></p>	<p><i>Threats</i></p>
<p>The overall retail sector including food retail is poised for an impressive growth in the next 10 years owing mainly to high income growth measured by per capita GDP.</p>	<p>Competition from FMCG-backed unorganized retailing could reduce the appeal of organized retail. This is expected to have a more profound effect in case of the food-retailing category.</p>
	<p>The earlier research revealed that in the existing supply chain the retailers are uncomfortable in handling perishable commodities. This is due to multiple handling and the lack of rural infrastructure facilities.</p>
	<p>Lack of uniform tax system for retailers is a burden that constrains the establishment of an efficient pan India supply system. The goods and services tax is expected to streamline the tax structure. However, it is facing many hurdles in its final implementation.</p>

**Table 3.3** (continued)

Strengths	Weaknesses
<p>The proportion of Indian residents who seek international food products is increasing.</p>	
<p>The openness of the economy and its policies on FDI in multi-brand retail, policy on reforming agricultural marketing systems is an important opportunity in the present context.</p>	
<p>Government also has initiated schemes such as terminal markets to create rural infrastructure. This could bring competitive marketing advantage for farmers produce.</p>	
<p>In the existing supply chain, a considerable portion of the produce is wasted due to handling and damages caused. Particularly in the case of perishable commodities such as fruits and vegetables, the direct procurement can reduce such losses to 7% by increasing efficiency up to 17% at the same time.</p>	

Source: Industry reports, magazines, debates on food retailing

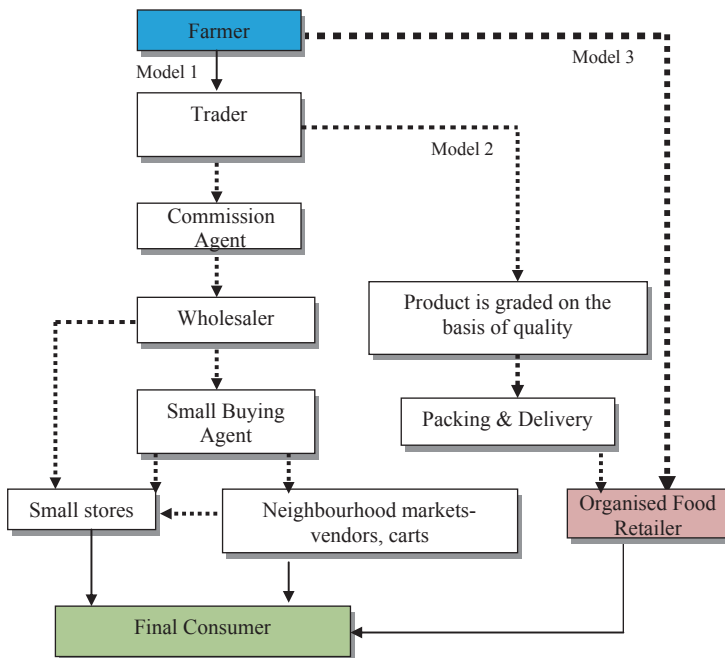


Fig. 3.6 Innovations in agri distribution framework (Source: Authors)

In the above agri value chain system (see Fig. 3.6), model 1 represents *Traditional Agri Supply Chain*, where the farm produce is routed through five stages before it reaches to the final consumer. These five stages do not add any value in the supply chain, whereas each stage adds cost to the goods in the form of profit margins, inventory cost, movement of goods cost, etc. This model highlights the non-value-added stages in the supply chain, lower returns to farmer, inefficiencies in the supply chain, higher wastages, and finally higher price to the end user. Model 2 represents the *Semi Organised Agri Supply Chain Model*, which is a contemporary one. In this model, many of the non-value-adding stages are eliminated before the produce reaches end consumers. The major benefits in this model are reduction in wastages, swifter movement of goods, quality produce, etc.

Model 3 can be called as *Revamped Agri Supply Chain Model* (or Organised Agri Supply Chain Model), where the organized food retailer acts as a link between producer and end consumer. It is very predominant in the developed Western countries and is catching up in the Indian food retailing sector. This model is an institutional arrangement, which offers higher returns and lower costs to the farmers. In addition, it gives access to larger markets and controls transaction and marketing costs.

The overall idea behind depicting this framework is simple. These models help in understanding how different players in the framework are opening up or closing off opportunities for producer (farmer) across an entire value chain. With this understanding, it is possible to design and implement the changes that would support appropriate participation by small-scale farmers. These changes may relate to government policies, support programmes, investment, infrastructure development,

**Table 3.4** Savings from shortening of supply chain

Particulars/year	2009	2010	2011	2012	2013	2014	2015	2016
Volume of food retail market (billion \$)	205.29	221.71	239.45	258.6	279.29	301.63	325.76	351.82
Share of organized food retail (%)	13	17	20	23	25	27	29	30
Volume of organized food retail (billion \$)	26.7	37.7	47.9	59.5	69.8	81.4	94.5	105.5
Savings for each player (billion \$)	3.2	4.5	5.7	7.1	8.4	9.8	11.3	12.7

Source: Kumar et al. (2008)

innovation and technology development, etc., to the ways farmers organize themselves, or to the contract set by the organized food retailers. The main activities involved in these models are: (i) mapping out the value chain to identify the main players and flow of produce; (ii) mapping key policies and institutions that influence the function of distribution network; (iii) identifying key drivers, trends and issues; (iv) identifying better options for inclusion and (v) development of strategies for support by public and private sectors.

As described in model 3, the shortening of the distribution network could result in cost reduction of about 35 % of the overall cost. In case of farm supplies, the three claimants to these economies are the farmer, organized food retailer and consumer. The share of each of these three parties is a function of their relative market power and competitive situation. Kumar et al. (2008) pointed out that “higher the level of competition in the organized food retailing sector, higher would be the proportion of their profits that would be competed away, and higher would be the benefits that would accrue to the farmer and consumer” (Table 3.4).

Due to the transformation of agri distribution system from largely supply-driven to demand-driven, the modern food retail has profoundly changed governance structures, procurement systems and quality and safety requirements. Modern markets are in competition with traditional markets, and as such are creating change within them. The following emerging trends like market concentration, centralized procurement, preferred supplier, specialized wholesaler, prices, penetration into low socioeconomic market segments, etc., are observed.

## 3.6 Case Studies

### 3.6.1 ITC Choupal Fresh: Transforming Micro Farming to Macro Farming

India is a country of small holder farmers. The size of operational holdings in India has declined from 2.28 ha (hectares) in 1971 to 1.57 ha in 1991 and to 1.41 ha in 1995–1996, and some estimates say it has further declined to 1.22 ha in recent years (ICRIER 2006).

Organizing fresh produce supply chains is the most challenging aspect of an organized food retail. It is about ensuring that the customer is offered the same product, with the same quality, at the same place, fresh and at any time of the year. India is a special case here where the number of large farmers is limited, and organizing small ones to reach scale and reliability of supply, same quality is notoriously high cost and risky. This challenge is thoughtfully cracked by ITC.

ITC is one of India's foremost private sector companies with a turnover of over US\$4.75 billion and a diversified presence in hotels, packaging, agri business, cigarettes, packaged foods and confectionery, information technology, and branded apparel, amongst other products.

ITC has started this Choupal project in the year 2004 in collaboration with Growth-Oriented Microenterprise Development (GMED) programme. It has piloted to organize 1600 small holder farmers in Punjab into clusters, train field extension specialists to transfer a package of production and postharvest techniques and link clusters to organized retail markets. The free extended service included a series of simple but effective changes in production techniques. Introducing tray nurseries to ensure a uniform crop, improved survival rates and productivity, introducing raised beds, shade nets for crops such as tomatoes and cucumbers were just some of the key changes introduced. These simple techniques have brought about great commercial benefits to farmers by reducing cost of production, higher yield, right harvesting time, etc. Techniques such as integrated crop management (ICM) and integrated pest management (IPM) also allowed prolonged crop production leading to off-season supply late in the season.

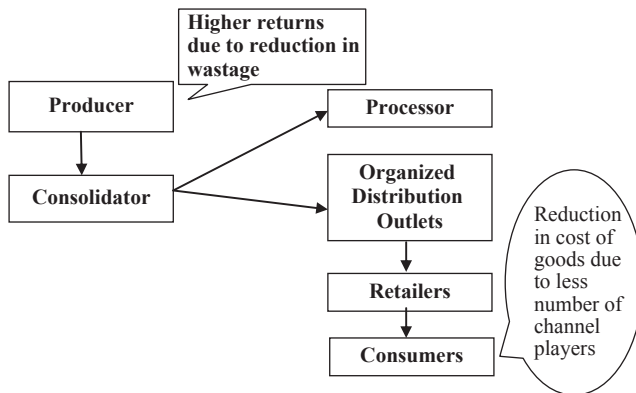
ITC and GMED trained farmers to grade produce into three categories: A, B and C with A being the highest grade. ITC used to source A and B grades to retail markets and C to local mandies. ITC's price discovery system is also based on local market prices. However, aspects such as grading, assuring a minimum price realization for producers, minimizing intermediaries and handling, ensures higher returns for farmers. ITC's method allows farmers to earn 15% more than local market rates on A grade produce—a major incentive for farmers to continue to be loyal suppliers to the company. This model was extended to other states such as Andhra Pradesh, Rajasthan, Maharashtra, etc.

### ***3.6.2 ITC Choupal Fresh Procurement Model***

ITC Choupal Fresh worked with procurement model where at each stage it tries to reduce wastage and fix margins and helps in bringing transparency in the overall supply chain. This helped in enhancing farmer returns by reducing wastage and helped in better pricing to the end consumer (Fig. 3.7).

### ***3.6.3 TESCO: Ready to Celebrate 100 Years of Happy Retailing***

Jack Cohen founded what would later become TESCO in 1919, selling surplus groceries from a stall in the East End of London. The first own-brand product he sold



**Fig. 3.7** ITC's procurement model

was TESCO Tea—before the company was called TESCO. (The name “TESCO” comes from the initials of T.E. Stockwell, who was a partner in the firm of tea suppliers, and “CO” from Jack Cohen’s surname). In 1929, Jack Cohen opened his first TESCO store in London, and in 1932, TESCO Stores Limited was established as a private limited company. In 1947, TESCO Stores (Holdings) Ltd. floated on the stock exchange with a share price of 25 pence. In 1960, TESCO took over a chain of 212 stores in the north of England, and added another 144 stores in 1964 and 1965. In 1979, annual sales reached GBP 1 billion. In 1983, TESCO Stores (Holdings) Ltd. became TESCO PLC. In 1985, TESCO launched its “Healthy Eating” initiative, and thus became the first major retailer to emphasize the nutritional value of its own-brand products.

### 3.6.4 TESCO International Expansion Plan

In 1995, the company became the market leader in food retailing, and at the same time entered the Hungarian market. In 1996, the first store, Belfast Metro, opened in Northern Ireland. In the same year, Tesco entered markets in Poland, the Czech Republic and Slovakia. In 1998, TESCO started activities in Taiwan and Thailand, and in 1999, TESCO Personal Finance clocked up its one millionth customer. Between 1999 and 2004, it launched business activities in South Korea, Malaysia, Japan, Turkey and China, and reached a store count of 4811 by 2010 (Ref Fig. 3.8). In 2001, it became the leading organic retailer in the UK; in 2002, it offered “Free-From” products designed for customers with special dietary needs. In 2005, the company announced an annual profit of GBP 2 billion and at the same time announced a trial of a nonfood store. In 2006, it announced plans to enter the USA. Currently, TESCO is looking at the possibility of entering Indian-organized retailing market (Table 3.5).

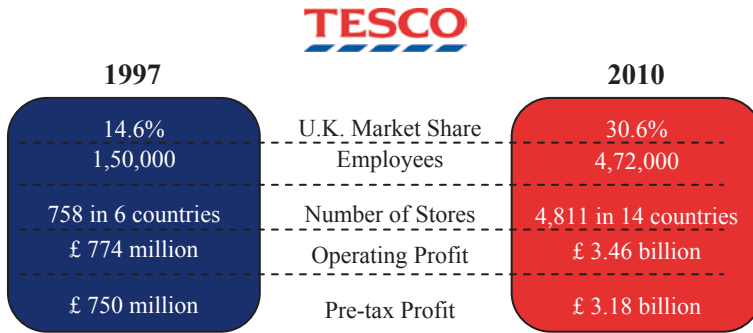


Fig. 3.8 TESCO international expansion (Source: Tesco annual reports)

Table 3.5 Tesco’s growth strategy from various markets

Start-up	Developing 1	Developing 2	Established
Early stage, exciting growth potential, returns dilutive short-term	Good market positions, improving returns	Market leading position, immature returns, growing well	Substantial profit centres, good returns, strong growth potential
China	Turkey	Slovakia	Korea
Japan	Poland	Malaysia	Ireland
USA	Czech Republic		Thailand
India			Hungary

TESCO expansion plans include new space, acquisitions and framing joint ventures. TESCO Malaysian store tell how TESCO became a market leader during its years of operation in Malaysia. It was formed on 29 November 2001 with a strategic alliance between TESCO Plc UK and local conglomerate, Sime Darby Berhad, of which the TESCO Plc UK holds 30% of the total shares. The first Tesco store in Malaysia was started at Puchong, Selangor in May, 2002. Currently, the group operates 33 Tesco and Tesco Extra stores acquired from Makro Cash & Carry in Malaysia in December 2006 and rebranded them to Tesco Extra. In 2009, Tesco was the number 1 hypermarket in Malaysia with thirty-three stores and over 11,000 staff and operating business in two formats, namely, Tesco hypermarkets and Tesco Extra.

### 3.7 Success Story of Chinese Domestic Retailer: Lianhua

#### 3.7.1 Chinese Food Retailing Overview

The good news for food suppliers is that “supermarketization” is transforming China’s food sector into a modern retail system. Modern supermarkets, convenience stores, hypermarkets and warehouse clubs, retail formats nearly nonexistent in China in the early 1990s, have now captured an estimated 30% of the urban food



market and are growing at the rates of 30–40% annually. Chinese supermarkets skyrocketed from just one outlet in 1990 to approximately 60,000 stores.

### ***3.7.2 Sources of Supermarket Sector Momentum***

The sector includes a number of different store formats: small-chain convenience stores selling primarily canned goods and beverages and/or snack and convenience foods; standard supermarkets; hypermarkets that sell a full range of consumer goods, from clothing and electronics to bicycles; large warehouse clubs. The large formats account for the lion's share (95%) of sales in the modern retail sector; convenience stores garner only 5%. These market shares are expected to continue for the foreseeable future.

Supermarkets began developing in the early 1990s in Shanghai and several other major cities, where they were encouraged by local governments. The largest Chinese supermarket, Lianhua, started out as a government-operated department store and marketing bureau in Shanghai. Multinational chains from Europe, Japan, Hong Kong and the USA provided a second major impetus in the development of the sector in the mid-to-late 1990s in the most prosperous coastal cities, including Shanghai, Guangzhou and Shenzhen. Supermarket development took off in other large cities such as Beijing in the late 1990s.

### ***3.7.3 About Lianhua Supermarket Holdings Co., Ltd.***

Lianhua Supermarket Holdings Co., Ltd. is a modern-day legend in China. Starting with 41 stores in 1995, it now runs 5239 stores with a turnover of 7077 crore RMB. It has grown organically as well as through franchise arrangements and acquisitions. Lianhua has 70% market share in Shanghai. The group operates in three main retail segments—hypermarkets, supermarkets and convenience stores, in order to cater to the diverse needs of consumers. These segments operate under the brand names of “Century Mart”, “Lianhua Supermarket”, “Hualian Supermarket” and “Lianhua Quik”, respectively. Lianhua Supermarket was one of the first Chinese retail chain operators to be listed on the Stock Exchange of Hong Kong Limited.

Lianhua Supermarket has attracted lots of customers with its distinct services. It sells range of fruits and vegetables, seafood, cooked food and cold dishes, grain crops, agricultural and sideline products, cereals, rice and health foods, spices, books, mobiles, digital products, shoes and hats, apparel, sportswear, washing and dressing supplies, fitness equipment and hardware appliances. Lianhua is known for its great variety of goods of high quality and low prices.

The company developed fresh produce bases in regions such as Guangxi, Jilin, Hainan, Fujian and Jiangsu provinces. And it continued, via more procurement from the place of origin, to minimize purchase and transportation costs and improve the freshness of vegetables. In addition, the company increased sales from products that

it takes on as inventory to achieve better margins. Now this largest Chinese food retailer, Lianhua, has started opening stores in Europe with the intent of developing into a retailer that can buy and sell in both domestic and foreign markets. Suppliers who are able to establish themselves in the procurement system of a multinational chain may have easier access to the China market.

### **The Wedge**

Wedge is an established consumer-owned cooperative food hub is the 36-year-old Wedge in Minneapolis. A food hub is a facility that is central to producers and has a business management structure that facilitates the aggregation, storage, processing, distribution or marketing of locally or regionally produced food products. According to the *Minneapolis Star-Tribune*, the Wedge is one of the largest single-store natural foods cooperatives in the USA, with US\$ 30 million in retail sales, in its last fiscal year, and another US\$ 12 million in wholesale markets.

A food hub functions as an intermediary that—by pooling producers and consumers—adds value to the marketing of produce and facilitates the development of a local food supply chain. Food hubs serve as aggregation points through which smaller producers can collectively market to larger buyers that they would otherwise not have access to; food hubs, for example, can purchase sufficient liability insurance to enter institutional food markets.

These facilities provide storage and logistic services to both buyers and sellers. The development of food hubs has been driven by idea that there is a “missing middle” or unorganized distribution in local food infrastructure. Food hubs identify and capitalize upon such gaps by developing and operating the needed infrastructure.

Some advantages and disadvantages of formation of cooperative food hubs include:

- Interest in local food by the consumers.
- The relatively high cost of local products is not an issue when co-op customers understand where the discrepancies come from.
- Sometimes access to local food has been a problem in the off season, but the demand is year-round;
- Consumer co-ops have had to compete with farmer’s markets, as well as natural food grocers and larger food retail outlets.
- There is a lack of cooperation among consumer co-ops and between co-ops and other organizations that has limited their effectiveness as food hubs.

The Wedge has been consistently profitable since the late 1980s. The Wedge has done particularly well this year, refunding 80% of its member-generated profits. The grocery co-op’s annual patronage refund to its members has hit US\$1 million for the first time, marking one of the largest of such distributions in the country.

In 2007, the Wedge purchased one of its long-standing grower suppliers. The farm is currently in full production under the supervision of an experienced manager. It is now the Wedge’s primary supplier of organic produce. The farm also serves as an organic farming education site.

**Table 3.6** Results of the regression analysis (dependent variable: food retail growth (in percentage))

	Unstandardized coefficients		Standardized coefficients	t-stat	Sig.
	B	Standard error	Beta		
(Constant)	-861.015	312.304		-2.757	<b>0.019</b>
GDPgrowth	-2.277	0.511	-0.709	-4.457	<b>0.001</b>
GDPpercapgrowth	1.568	0.317	0.657	4.955	<b>0.000</b>
Womeninnonagrisectorpercent	1.747	1.247	0.529	1.401	0.189
Agrivalueaddedgrowthpercent	0.541	0.214	0.301	2.533	<b>0.028</b>
Pavedroadspercent	0.300	0.361	0.140	0.833	0.423
Urbanpopgrowthpercent	11.250	4.307	0.886	2.612	<b>0.024</b>
Opennessofeconomy	4.984	1.881	0.996	2.650	<b>0.023</b>
Investment	1.475	1.264	0.196	2.617	<b>0.026</b>
Urbanpoppercentoftotal pop	3.749	2.355	0.743	1.592	0.140

Both farmers and consumers have used the cooperative model of business successfully to organize food hubs to expand market opportunities for smaller agricultural producers, create rural jobs and increase local food sales.

### 3.8 Empirical Analysis

The growth of the organized food retailing is a function of a set of supporting variables and factors that allow us to understand the impact and market restructuring decisions by policy makers and institutions. Given that the chapter estimated the regression equation using the data from the Central Statistical Organisation, the World Bank, industry reports, etc., most satisfactory results were obtained with the data. Variables such as growth of food retailing, GDP growth rate, GDP per capita growth rate, percentage of women in nonagri sector, percentage of agri value-added growth, paved roads as a percentage of total roads, percentage growth in urban population, openness of the economy, investment, and growth percentage of urban population were considered for the multiple regression analysis to explain their impact on the growth of food retail in India (Table 3.6).

The estimated equation is:

$$\hat{y} = f (b_0 + b_1x) \tag{1}$$

$$\begin{aligned}
 Y_{\text{food retail growth}} = f & (\beta_0 + \beta_1 \text{ GDP growthrate} + \beta_2 \text{ GDP percapitagrowth} \\
 & + \beta_3 \text{ Women in non agri} + \beta_4 \text{ Agri value added} \\
 & + \beta_5 \text{ Paved roads} + \beta_6 \text{ Urban pop growth} + \beta_7 \text{ Openness} \\
 & + \beta_8 \text{ Investment} + \beta_8 \text{ Urban pop percent} + \hat{e}
 \end{aligned} \tag{2}$$

**Model Summary**

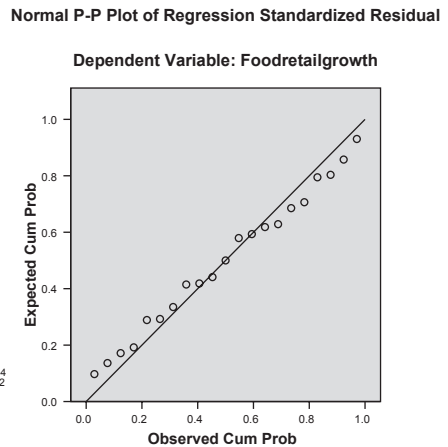
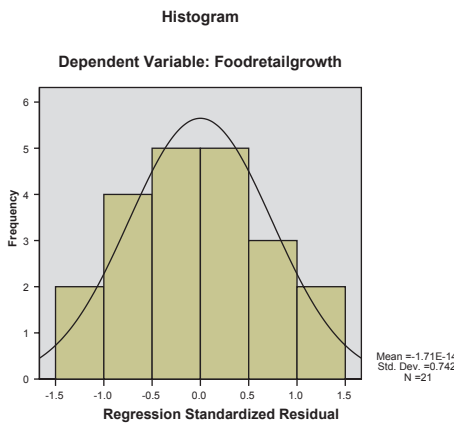
Model	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Std. error of the estimate	Durbin-Watson
1	0.949	0.902	0.821	3.23220	2.121

Predictors: (Constant), Urbanpopgrowth, GDPpercapgrowth, Agrivalueaddedgrowthpercent, Urbanpopgrowthpercent, GDPgrowth, Investment, Pavedroadspercent, Opennessofeconomy, Womeninnonagriselectorpercent  
 Dependent Variable: Foodretailgrowth

**ANOVA**

	Sum of squares	df	Mean square	F	Sig.
Regression	1052.308	9	116.923	11.192	0.000
Residual	114.918	11	10.447		
Total	1167.227	20			

Predictors: (Constant), Urbanpopgrowth, GDPpercapgrowth, Agrivalueaddedgrowthpercent, Urbanpopgrowthpercent, GDPgrowth, Investment, Pavedroadspercent, Opennessofeconomy, Womeninnonagriselectorpercent  
 Dependent Variable: Foodretailgrowth



The beta coefficients in majority of the cases are positive and significant as expected and are consistent with the literature. The analysis shows that the adjusted R-squared obtained in the model indicates 82% of variation in the growth of food retailing sector can be explained by the explanatory variables. The ANOVA also signifies the goodness of fit of the model. There is no autocorrelation in the independent variables, which is represented by the Durbin–Watson test, and the absence of multicollinearity is also tested by the tolerance and variance inflation factor.

### 3.9 Policies, Institutions and Regulations

The studies on global supply chains and food retailing systems indicate the failure of regulatory policy that adversely affects the outcomes for the world food system. Much of the Indian retail trade (particularly food retail) still has traditional features: small family-run shops and street hawkers dominate the situation in most of the country. However, the retail trade in India is now undergoing an intensive structural change, which could cause irreversible damage to local commodity supply chains and competition. The existing regulations are not adequate to fulfil the new requirements. India can learn (and perhaps forestall loss of genuine competition and product variety) from the experience of Southeast Asian countries that are improving regulatory frameworks and some advanced retailing economies such as Germany which are already considered more successful regulators in this sector. German competition policies in content and implementation are significant for India to the extent that they are different from other advanced retailing countries such as the USA and UK (Kalhan and Franz 2009).

India still has some restrictive regulation in retail (e.g., FDI in multiproduct retail is not allowed) but wholesale trade has been open to FDI for the past almost 10 years. The sector has also been witnessing rapid investment by Indian corporate entities. There are various estimates, and even today organized retail accounts for less than 6% of the retail out of the present total market estimated to be at US\$ 320 billion which is expected to grow rapidly to \$1.5 trillion by 2025.

### 3.10 Conclusion and Policy Recommendations

Global management consultancy firm McKinsey & Co's report on India's modern retail business outlines that India is emerging as a competitive retail market. It also highlights that organized food retailers need to take some innovative steps to win in a complex country like India. With an expanding economy, the country's overall retail sector will become a US\$ 450 billion business by 2015, which is almost comparable to Italy's current market size of US\$ 462 billion (among the world's top 10 retail markets) and larger than Brazil's current retail market size of US\$ 258 billion. India's modern retail business, which currently accounts for only about 5% of the country's annual retail business, has a long way to go.

Private sector programmes are promising to help small farmers get the resources and services they need to supply supermarket channels. Agrifood businesses in India undertaken by ITC, Safal, Pepsi co, Godrej and Reliance have rural business hubs that offer consumables, farm inputs and technical assistance and procure yield from farmers. Governments need to appendage private efforts with investments in improving farmers' access to recourses, services, training and information. Some of these assets are public goods such as regulations on retailer-supplier relations to promote fair commercial practices, wholesale market upgrading, market

information and physical infrastructure such as cold chains and roads. Other recourses are private goods, such as assistance with market linkages between small farmer cooperatives and supermarket chains; training in postharvest handling; and credit facilities for making on-farm investments in assets needed to meet quality and volume requirements, such as irrigation and greenhouses.

The Indian Government is now presented with the valuable opportunity of creating conditions that will mitigate the dislocating effects of retail liberalization for India's most vulnerable populations. The possibility of deregulating FDI in India might be enticing to some; what should be clear to all is that the costs of getting this process wrong is something that the Indian people cannot afford.

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# Chapter 4

## Retail Trade in Agriculture, Environment, and Fair-Trade Practices: Review of Experiences and Future Pathways

Amita Shah

### 4.1 Introduction

The recent debate on the entry of large private investors, especially multinationals, in agri-food retail markets in India has been marked by the twin concerns of efficiency and employment. The former refers to a range of efficiency parameters, viz. quality, range of consumer choices, price, wastage, and, above all, flow of the much-sought-after foreign direct investment (FDI) in the hitherto underinvested sector in order to boost up India's economic growth and wellbeing of its citizens. The debate has witnessed one of the most polarized stances and political opposition primarily on the ground that the FDI, especially the large multinationals already knocking at the huge and growing Indian market, may not necessarily bring efficiency across the various dimensions noted above, and that it would displace segment within the existing unorganized retail sector that has been by far the only resort for a large number of poor and not-so-skilled workers in the country (Singh 2010; Shah 2011; Ghosh 2012). With the Government of India finally approving the entry of FDIs in multi-brand food retail sector in September 2012, the debate seems to have come to a temporary halt, waiting to see how the realities actually unfold for the sector.

The contemporary Indian debate is some kind of a replay of what was witnessed in the developed countries of the West in the later part of the last millennium (Reardon and Gulati 2008; Reardon and Minten 2011). Naturally, there has been a tendency among a wide range of stakeholders including sections of scholars, policy-makers, business groups, and consumers to seek solace in the power of the market and resort to wishful thinking that entry of the large multinationals into the agri-food retails sector may eventually bring the desired efficiency as well as employment opportunities after initial frictions within the existing system and displacement of a small segment of workers in the unorganized retail sector, as it happened in most of the developed economies, and, of late, some of the emerging economies in different

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parts of the world. The need therefore is to pave way towards a smooth transition from a largely unorganized system to a modern, upbeat, and large corporate-based system, operating through global value chains.

The claims about historical experiences of the developed economies in the world, however, is neither universal nor without flaws. Not only that the experiences, especially, from developing economies are diverse, the global food retail system driven by large multinationals has often raised issues that are yet to be resolved. These, *inter alia*, include issues like the monopoly/oligopoly power of the giant corporations, wasteful expenditure on advertisement and brand creation, artificially created product standards leading to wastage of agriproducts, intense farm practices, loss of cultural- as well as biodiversity, quality/loss of food value due to processing and refrigeration, lifestyle-related demonstration effects shaping consumer choices, overconsumption and health problems, and, last but not least, environmental damage or carbon footprint of the globally procured, stored, and distributed food items.

A plethora of literature already exists capturing the wide range of issues noted earlier. Whereas much of the literature has emanated from the developed economies in the West, especially in Europe, evidence from some of the developing countries have suggested that the claims about efficiency on parameters like price and wastage, etc. have not been actually realized (Singh 2011). What is more important is that when it comes to food and its retail marketing, India stands out as a unique case even among the emerging economies in spite of the high rate of growth experienced by the Indian economy. Among the important differences, the disconnect between sectoral shift in gross domestic product (GDP) and employment is by far the most glaring deviation from the growth trajectory followed by a number of other emerging economies. The fact that nearly 50% of the total workforce still remaining in the primary sector contributes to just 17% of the GDP is a pointer to both the cause as well as the manifestation of an anomaly of extreme type in India's economic structure.

This essentially implies that experiences from elsewhere *per se*, could hardly be a guide to show the pathway for future development in the country. More recently, the analysis of growth experience in the post nineties has highlighted the fact that the higher rate of growth during this period was more fuelled by FDIs and other private sector investment rather than by structural reforms as such (Nagaraj 2013). The quest for FDI in agri-food retail sector seems to fall very well in this pattern; no wonder FDI in this sector is being seen as an effective mechanism to boost up the much-needed agriculture growth in the country.

The main issue of the contemporary debate on FDI in the agri-food sector in India, as in most parts of the world, is enhancement of investment (especially from the large corporate sector), efficiency (in a pure market sense), and consumer welfare (in terms of widening of the choices). The issues of equity and environmental sustainability, at least till recently, seem to have taken a back seat. The above perspective continues to prevail despite the growing awareness in some of the developed economies to pay increasing attention to a number of equally important aspects, such as quality, diversity, environment, and ethics of food along the entire value chain (Timmer 2004; Eurostat 2008). In this context, various 'faire-trade' initiatives

assume some relevance as they open up space for incorporating environmental, labour, and food safety standards to be adopted at different stages of the value chain. Though useful, such initiatives remain limited in scope and coverage, often in isolation of the larger policy framework within the country.

Given this backdrop, this chapter aims at (a) reviewing the existing debate as well as evidence on environmental impact of the agri-food retail sector, (b) identifying likely implications on the environment and the poor's livelihood in Indian context, and (c) looking at some of the recent initiatives towards environmental standards and fair-trade practices in India. The chapter also discusses possibilities for mainstreaming environmental considerations in domestic policy discourse.

## 4.2 Agri-Food Value Chain and Environment: Global Debate and Experience

Whereas organized retailing in different variants has been operating since the late nineteenth century in Europe and the USA, it had made major inroads into large parts of the developed economies by the middle of the twentieth century (Reardon and Gulati 2008). By 2000, supermarkets had occupied about 70–80% of the national food retail sector in the USA and France and about 50–60% in Latin America (Reardon et al. 2003). Catching up with the trend, some of the developing economies, viz. Brazil, Argentina, Chile, China, Taiwan, Thailand, Malaysia, Indonesia, and also South Africa witnessed significant rise in the organized retail segment in agri-food sector by the turn of the last century. In fact the catching up process is seen to be much faster, and scholars have tried to attribute this to a number of demand- and supply-side factors, for example rapid economic growth, urbanization, increased female work force participation on the one hand, and modernization of food industry, industrial organization, trade policies on the other (Reardon and Gulati 2008).

Broadly speaking, the growing rich literature on global supply chain or agri-food retail sector was marked by two major streams of concerns and analytical perspectives. The main focus of the first stream of literature was on the question of how to streamline and support the ongoing and almost inevitable process of agro-industrialization in general and global value chain for agri-food sector in particular. On the other hand, the second stream has been occupied with a larger set of concerns around not only environment and pollution, but also culture, biodiversity, ethics, and consumerism as well as lifestyle-related aspirations pertaining to food economy, thereby questioning the very logic of global food economy.

Of course the studies that have followed the two streams have fair amount of common ground and overlap in terms of the specific issues raised and investigated. In fact the major difference lies in terms of the central premise and value systems adopted by the two streams of studies. Putting it simply, the former represents neo-liberal approach with global markets as the centre piece and an indispensable starting point for the future pathways (Reardon and Barrett 2000), whereas the latter

brings to the centre stage sustainable pathways as guiding principles to deal with this critical sector. Needless to mention that the discourse on agri-food value chain is firmly rooted in the enduring debate on globalization and economic wellbeing, interspersed with the growing global commitments on sustainable development. The specific interest in the theme on environmental implications of the agri-food global value chain emanates from the concerns of sustainable development.

Timmer (2004) summarizes the recent discourse on organized agri-food market, henceforth captioned by supermarkets for the purpose of simplicity, by highlighting three important observations: ‘In summary, what does a long run perspective have to say about the supermarket revolution? First, it is understandable within the context of the structural transformation and the long-run evolution of agriculture within that process. Second, basic economics, with its stress on returns to scarce factors of production, is surprisingly helpful in understanding the inner dynamics of the process. But third, this perspective provides little guidance on how to assist small farmers as they compete for contracts from supermarket procurement officers. For that, the diversity of the global food system, rather than its common themes and forces, needs to be understood. Still, there are some important lessons that come from combining the food policy perspective and the historical, analytical perspective. These lessons tend to play out at the sectoral (marketing) level and at the macro level, in terms of how the overall economy is performing.’ (Timmer 2004). What is thus highlighted is a need to look into the context-specific situation with respect to time (or stage of economic development, policy challenges, and structural constraints) faced by each country. The case of India assumes special significance in this context.

So far as environmental issues (e.g. scarce natural resources as noted by Timmer above) are concerned, the economics framework adopted to date is far from being comprehensive. Reardon and Timmer (2012) noted a need for broadening of the food system analysis so as to develop a ‘transdisciplinary, multidimensional conceptual framework to study developing country food value chains...to explicitly link among the multiple dimensions of food value chain performance—such as economic costs, distributional equity, environmental impacts, energy use, and consumer and farm-worker health and safety. Within such a conceptual framework, scientists can construct rigorous models and conduct empirical research to test their validity’ [p. 155]. In absence of a multidisciplinary approach, the mainstream discourse on agri-food retail sector in India and elsewhere has followed ‘business as usual approach’ suggesting path dependency. The main tenor of the discourse therefore has been: ‘This has happened in most parts of the world, hence ought to happen in India’, provided certain policy snags are overcome. The prescription for promoting FDI in the Indian case is by and large built on a deductive logic falling into the trap of massive generalization across countries and the developmental challenges faced thereof.

In fact, the absence of equity- and environmental concerns is also rooted in the fact that these aspects or objectives are still kept outside the framework of international trade, of course with a few exceptions (Shah 2011), whereas the policy discourse on supermarkets or global value chains in agri-food sector is largely shaped by the considerations of trade liberalization, competitive advantage, and consumer preferences with an underlying assumption that global trade or value chain will enhance development, a proposition which is still awaiting a robust evidence. A

review of experience from a number of countries is concluded with an overall positive impact, though the benefits may shift gradually from better-off to other strata of the communities (Reardon and Gulati 2008).

Following this, the equity and environmental concerns in the sector have been dealt with in the larger neo-liberal policy framework, where the onus of conserving the environment or safeguarding the poor's interest is left almost entirely to the initiatives of the trading agencies and/or with consumers. The implication is that the environmental concerns have largely remained within the realm of fair adoption of voluntary standards by those who procure and/or purchase various agri-food commodities, thus bringing to the centre stage the role of the retailers on the one hand and consumers on the other (Sparks 2002). The state of the environment and the poor's wellbeing thus is left to the free will of these two sets of agencies that operate in this market. Else, it is left to the respective nation or countries to look after these important dimensions of development by way of introducing special schemes or policy instruments. This is really strange when the basic developmental concerns pertaining to environment, health, food security, and livelihood are set to be managed by the domestic policies, at times, in isolation of markets and trade regimes.

Since environment and equity are yet to take centre stage in the policy discourse for development in the sector, the above approach of generalization, rather than looking at the diversity, is bound to miss them out. Notwithstanding this overarching limitation, we have tried to review the existing literature, which is broadly divided into two streams. First referring to a set of studies on ways of streamlining and supporting the process of agroindustrialization in general and global value chain for agri-food sector in particular. Second set of studies have focused on a larger set of concerns around environment and pollution, culture, biodiversity, ethics, and consumerism as well as lifestyle-related aspirations pertaining to food economy.

### ***4.2.1 Market-Led Approach***

Experience from a number of studies across the globe had highlighted that the penetration of supermarkets in the agri-food sector may lead to market concentration, pressure on farmers to adhere to the quality, thereby intensive use of chemical inputs, deforestation, exclusion of small-marginal farmers and market concentration, and monopoly power (Pingali and Rosegrant 1995; Timmer 2004; FAO 2004). Over time, the power of the food retailers in comparison to both manufacturers and consumers has increased in many countries, which arguably has serious implications for access to choices at various levels, especially among poorer consumers (Sparks 2002; Dobson and Waterson 1999).

Given that economies of scale reign supreme in the market logic, market concentration is deemed (or accepted) as inevitable. The policy framework, therefore, tried to seek solutions through mechanisms of setting up various kinds of standards (related to health and safety, environment, labour), labelling, and price premium and thus triggered a series of initiatives from large multinational corporations often in collaboration with civil-society organizations and green campaigns. Among these, green

initiatives under the aegis of sustainable consumption and production (SCP) practices could be treated as forerunners (Chkanikova and Mont 2011; Eurostat 2008).

Though well intended, such initiatives, mainly at the instance of the large retail organizations, may have culminated into a wider gulf between high-end (affluent) and low-end (poor) consumers. The widened gap, however, does not seem to have attracted the attention of the market players or policymakers since the central concern here is on building on the existing market structure and dominance of large players in the sector. Any efforts to offer 'green options', without corresponding support from the state to invest in natural resources such as land, water, pastures on a sustainable basis, are likely to create product differentiation and thereby are likely to lead to the exclusion of poor consumers. Since specific interest or welfare of the regions, producers, and consumers faced with poorer natural resource endowment does not form central place in the market logic of profit maximization, product differentiation may lead to diverting increasing proportion of the natural resources being put under 'green options', often at the cost of poor regions, producers, and consumers. The downside of such initiatives could be further intensification of farm production through intensive use of mechanical and chemical inputs so as to raise productivity of land outside the realm of green production. In that sense equity and environmental objectives may have close connections and correspondence.

#### ***4.2.2 A Multidimensional Approach to Sustainability***

The analysis following a comprehensive and multidimensional approach to the issue of food global food systems take a different route to addressing the environmental issues. Instead of starting with efficiency consideration in a market sense, the central concern in this approach is about sustainability of ecosystem services and diversity.

Food production is the largest source of biodiversity (deforestation, diverse land use pattern, support to allied activities), accounting for 20–30% of the total green house gas (GHG) emissions (Sonesson, undated). Sustenance of ecosystem services should thus be seen as a core guiding principle for shaping the structure and composition of entire food production, distribution, consumption, and disposal. This may imply that the central thrust of the food system is to ensure access to adequate and healthy food to all by minimizing the adverse impact on environment and ecosystem services. A perspective such as this takes on board the trade-offs between food and environment, basic security and lifestyle-related aspirations, and rich and poor. It is for the global community to decide on these critical trade-offs within the framework of sustainable development, which essentially includes trade, environmental protocols, and global governance.

The analysis in this set of studies, therefore, does not go into the minute calculations of the environmental loads of global versus local food, fresh versus processed food, and organically grown versus other food. Hence, instead of trying to find mechanisms by which the environmental load of the global retail sector could be reduced, the search here is to find ways and means by which sustainable food pro-

duction is promoted, local producers and the environment are strengthened, and poorer consumers are served better. It is argued that these are the primary goals around which trade, consumer choice (or consumerism), and technology are to be calibrated. The fact that these may involve value-laden decisions does not necessarily make them inferior or irrelevant as they provide the basis for estimating green national product (CSO 2013).

This perspective has been aptly presented in a report prepared by the Food Ethics Council (2008) in the UK. The report states that the state and the food retail industry have failed on two counts: First, it has shifted the responsibility of reducing emissions to other countries and consumers. The second, and perhaps more important, aspect is a failure to recognize that the public concern around food distribution is also about diversity, production conditions, and animal welfare as well as climate change.

Critiquing the food miles approach, the report underlines the fact that excessive and almost singular emphasis on transportation and the related emissions, the discussion of food miles has overlooked various other equally important dimensions, viz. social and cultural, of food system and environment.

Within this overarching framework, the value of local food is measured not only in terms of environmental load per se but also in terms of cultural diversity which essentially supports local environment and communities. On a similar note, the study by Friends of the Earth (2005) notes how during the peak apple-growing season in the UK the apples on the shelf of the large supermarkets were sourced mainly from other countries. In fact a similar situation has started showing up in India. While one may argue that this is a transitory phase; eventually, the growers in the home country will shift to other products where they have relatively higher competitive advantage, and/or alternative institutional arrangements are put in place for linking local producers with the retailers. Both these options fail to capture the value of diversity and location specificity, link between consumers and producers (as highlighted by the Food Ethics Council), and freshness let alone the issues of affordability and emissions.

FAO (2004) reflecting on globalization of food system in developing countries notes that erosion of diversity owing to the growing notion of standardization and quality (not necessarily food value) leads to erosion of diversity and at times loss of livelihood. Noting that equal access to opportunities created through globalization is difficult to come about on its own, the study highlights the need for growing global consensus and cooperation to attain the sustainability goal in the food sector as markets alone may not deliver this.

### **4.3 Empirical Evidence: Partial and Mixed?**

As noted earlier, the empirical enquiry assessing the environmental impact of the organized food processing and distribution sector has started sometime around the beginning of the new millennium. To some extent, the increasing interest in ascertaining environmental impact could be attributed to the emerging concerns about

climate change, promoting global trade and sustainable development, and, of late, health outcomes of food often arising from overconsumption and the use of chemicals as well as preservatives, etc. Despite the growing concerns and policy commitments to the agenda of sustainable development the world over, the existing literature has remained confined mainly to the USA and parts of Europe, besides occasional efforts to study the situation in emerging economies such as China, South Africa, Australia, and New Zealand (Land Care Research 2012). An obvious reason for the limited coverage of the study on environmental impacts of the agri-food-retailing sector is that the sector has already penetrated into the food economies of the developed world, therefore qualifying these countries to capture the impacts along already established global value chains.

As a result, the existing literature on the theme remains heavily shaped by the concerns of the developed economies such as overall drive for globalization, corporate response, climate mitigation with central emphasis on energy use and GHG emissions, wastage, and health (obesity). The larger concerns about ecological sustainability, state's response, local economies and culture, and underconsumption, etc. have been relatively less emphasized in the literature.

To a large extent, the studies have tried to capture these impacts by adopting various methods such as life cycle analysis (LCA); assessment of carbon footprint; estimate of food miles, etc. Initially, the thrust was mainly on emissions resulting from long-distance transportation and refrigeration. Over time, the scope of environmental impact assessment, especially under this set of studies, seems to have widened and is further evolving. Often these studies try to map out or quantify various environmental impacts such as energy use, air and water pollution, and use of pesticides and other chemicals for farm production over three stages of the value chain: direct, upstream, and downstream. Despite these recent developments, the studies, by and large, tend to focus more on production and at times processing rather than on capturing the entire life cycle from farm to fork (Foster et al. 2006).

Since most of the studies are country specific, it is somewhat difficult to link and generalize. In what follows, we present a brief account of the evidence emerging from some of the important studies with country-specific focus. The idea is not to present a cohesive set of evidence; rather, the purpose here is to assess the existing evidence in the light of the conceptual discussion that is presented in the previous section.

### ***4.3.1 Impact of Large-Scale Retailing***

Whereas the early attempts to examine environmental impacts of supermarkets were led by some of the leading environmental campaign groups, empirical investigation has gradually made inroads into systematic academic enquiries. In a stark revelation, a study by Friends of the Earth in the UK highlighted that lorries of the nine supermarkets travelled 670 million miles/year. This is equivalent to four return trips to the moon every day (Garnett 2003). This obviously has severe implications for GHG emissions and climate change (Friends of the Earth 2005).

Closely related to this is the evidence on food miles, which essentially captures environmental and social costs associated with transporting food from where it is produced to where it reaches the end consumer. The concept of food miles is not concerned with financial cost of transporting food items. According to an estimate cited in a fact sheet during April 2008, transportation of food for the UK market during 2002 had produced 19 million tons of CO<sub>2</sub>, of which 10 million tons were emitted in the UK. The environmental impact has multiplied since then with increasing share of air lifting of food products in the recent years. The central argument being made by these studies is to promote locally produced and procured food which could at least reduce CO<sub>2</sub> emissions. There are of course other virtues in promoting local food, namely diversity, culture, tradition, and quality (freshness), etc. as noted earlier (Paxton 1994).

This view has been critiqued and countered by a set of researchers and other stakeholders such as the corporate sector and the policymakers who argue for 'buy global'. According to the critiques of the localization approach, it is noted: 'At best, the food mile perspective is a well-meaning marketing fad that frequently and severely distorts the environmental impacts of agricultural production. At worst it constitutes a dangerous distraction from the very real and serious issues that affect energy consumption and the environmental impact of modern food production and the affordability of food' (Mercatus Policy Series 2008).

The most important limitation in the concept of food mile is its negation of productivity differentials between geographical locations. What is therefore pleaded is a comprehensive assessment based on life cycle analysis, which, of course, has several limitations but is certainly seen as an improvement over the food miles assessment.

Foster et al. (2006) in a detailed study using the LCA method for examining environmental impacts of food production and consumption in the UK observed that there are wide variations in agricultural production across different parts of the world. The study concluded that global sourcing is a better environmental option for particular foods. The study, among other findings thus lent support to the argument of 'buy global'.

Foster et al. (2006) covered 150 most selling food items and also compared them with fresh, locally procured, and organic food items. Whereas it is difficult to summarize a fairly exhaustive set of findings from a comprehensive analysis such as this, it is pertinent to note that the difference between the food items sourced through conventional versus alternative (fresh, local, organic) seem to be either negligible and or non-conclusive. Similarly, the comparison between fresh and cold food items is concluded by suggesting that refrigeration or preservation is almost inevitable, and that there is no clear evidence with respect to wastage in both cases, implying thereby that there is hardly any value for policy formulation! Further, the analysis suggests that energy used in car-based shopping combined with subsequent home-based cooking exceeds that used within the distribution system. It is, however, noted that air lifting of food items has far more energy consumption than otherwise. Similarly, the study suggests that organic products do have higher use of pesticides; similarly, refrigeration would imply greater use of energy.



Carrying out a detailed analysis of the major commodity groups within the food sector in the USA, Davies and Konisky (2000) tried to examine environmental impacts (positive/negative) of the food service and food-retailing sector in the USA. The impacts were tracked across three channels, viz. direct, upstream, and downstream focusing on important environmental indicators, viz. energy use, wastage, air and water emissions, food safety, etc. Recognizing that food service and retailing, unlike food production, accounts for a large share in the US economy, examining the environmental impacts was deemed to be very relevant, especially when the food sector had also started globalizing at a fast pace in several other parts of the world.

The study notes that although energy use of the food service and retailing sector accounts for only a small proportion of the total consumption of energy in the US economy, the sector represents one of the high-energy-intensive sectors in the USA. Similarly, referring to an earlier study, food wastage in the USA was found to be the third largest source of solid waste in the late 1990s. It also noted that packaging material was the most significant source of solid waste generated by the food sectors in the USA. On direct air and water pollution the study reports relatively smaller impacts; however, it notes that the sector is responsible for the highest use of commercial refrigeration. To what extent the sector complies with the Montreal Protocol was not clear. Whereas the paper goes into detailed discussion on how the industry and the consumers could be influenced to improve the environmental impacts of the sector, the authors make a strong plea for a robust database for capturing specific impacts generated by the sector.

The central message emerging from the study is that alternative food system is not necessarily superior in terms of resource use, and that there is a need for further studies in order to draw firm conclusions! Clearly, the study has not gone into ascertaining the impacts on health, local environment in the countries from where the food items are sourced, and scope for exploring further possibilities within alternative food production systems.

As a counter to this evidence, a study from Sweden comparing four different types of 'food trolleys' argued that there is a substantial scope for reducing the environmental impacts of the present food baskets in the country. While stressing on the need to change the patterns of consumption and simultaneously shifting to ecologically sustainable agriculture, the paper demonstrated that if all the citizens shift to 'eco-local' food basket, the nitrogen surplus will reduce by 36%. At the same time it would reduce agricultural area by 70%, which then could be diverted for fuel and fibre production. The study further finds that if the entire food production system changes to 'ecological recycling agriculture', the environmental impact would be lower even when the consumption profile remains at the average Swedish level (Granstedt et al. 2005).

Another study by WWF (2008) sought to examine the environmental impact of the UK's food consumption on 35 selected locations that are on priority for conservation under the One Planet Food Programme. The study observed that the UK's consumption pattern significantly affected 10 out of the 35 priority places identified by WWF. Highlighting the fact that about 23% of the global ecological footprints is

contributed by food production, the report notes that although much of the food is being produced in the UK, the consumption pattern has far-reaching environmental impacts. The study makes special reference to the environmental stress created by increasing demand for livestock production. Reflecting on the study, Mark Driscoll in his foreword to the report notes: ‘We need to look beyond some current emblematic issues, and focus on some underlying processes that matter most, in the full range of farming systems and the technologies used’.

### 4.3.2 *Consumer’s Response*

Attempts have been made to examine how the end users, especially those who purchase from large retail outlets, consider the environmental aspect while opting for particular products. Prima facie, promoting environmentally conducive products through green labelling or the appeal for healthy and locally produced fresh food, etc. runs into two sets of difficulties: The first relates to relatively higher cost, hence higher price and the second to consumer perceptions or behaviour (UNEP 2005).

The empirical evidence both from the USA and the UK suggest that although consumers may be aware of the ‘likely’ benefits of organic and/or local food, not many are actually willing to pay for the same (Pirog and Largon 2007; Sparks 2002). The Eurobarometer survey conducted in 2006 revealed that food safety, environment, and animal welfare were the three most important aspects that the respondents expected agriculture policy to focus on. However, when it comes to exercising the choice, not many of the EU consumers actually opt for safer or environmentally conducive products.

According to Timmer (2004) human beings are like hard wire, very difficult to bend when it comes to food habits. He argues that whereas education and awareness have a role to play, these alone may not help change the behaviour significantly. On the other hand, retailers may contribute significantly by adopting a variety of standards pertaining to aspects such as safety, environment, and animal welfare. It is further stressed that public policies are relatively slow and perhaps less effective than the rapidly growing private standards to take care of consumer’s concerns or preferences. This brings us back to the market-led approach for addressing the environmental impacts in the retail sector—a point already elaborated in the previous section.

On a different note, a detailed study by the Institut National de la Recherche Agronomique (INRA) on eating patterns (Guyomard et al. 2012) brings home the point that although there has been a clear shift in diet in most parts of the world, the newly adopted diet with reduced consumptions of cereal and animal products along with increased consumption of sugar, fruits, other fats, etc. may not necessarily be more conducive for the environment as it may create additional burden on land, water, and other resources including fossil fuel. What is, however, more important is that the study highlights the role of reducing not only waste but also consumption especially among the developed economies. This, according to the study, may help both health and environment. A strategy such as this appears counter-intuitive

to the basic logic of the large-scale global system of food procurement and retailing sector, where scale economies matter a lot. Essentially the central point made by the study is that defining globally relevant diets is a misplaced notion; rather, what is important is to define spatially and socioculturally defined diverse food pattern calibrated to local environment and nutritional requirement of the population. The authors argue that this requires a better understanding of food consumption behaviours and of their various determinants in order to favour desirable changes through actions and regulations on buying and consumption behaviours, the food environments, the relative prices of foodstuffs as well as the behaviour of the food and retailing industry. These actions and regulations will have to take into consideration the specificities of individuals, social groups, and countries (p. 37). This is at variance with the perspective discussed above where globally adopted standards set by the private sector take precedence over country-specific policies, needs, and preferences of the consumers.

The review of select studies in this section suggests that evidence, at best, is mixed and non-conclusive. Hence, the debate is likely to continue for want of conclusive evidence within and across country-specific situations. What is pertinent is that the studies often take a static and partial view of the alternative food systems, and yet invariably reach a conclusion that the modern food system does have scope to improve the environmental footprints, and that the large corporate sector could do this, provided suitable regulatory and incentive mechanisms are in place (Higgins and Aradhey 2009). Simultaneously, the debate has moved further to bring in consumer awareness and education as a parallel force for pushing environmental standards by shifting to healthier and sustainable consumption patterns.

On a downside, the analysis almost completely misses out on similar possibilities for sustainable or alternative/traditional farming systems to improve the performance, provided the state comes forward in a big way to promote such food systems that have special relevance in large parts of the developing economies, where farming takes place under diverse and constrained socioeconomic as well as ecological conditions, for example dry land farming systems spread across vast areas of agriculture in Africa and Asia (Shah 2011). It has been noted that water use efficiency is often missing in the green supply perspectives. This suggests criticality of looking at environmental impacts in context-specific situation rather than using a uniform measure or standard across various exporting economies from where food products are being procured by the large corporations. Underlining this point, Flynn (2011), among others, noted that whereas there is no doubt that the present food chain is energy intensive and wasteful, exploring a sustainable food system is complex as there are alternative interpretations. Besides, the alternative food systems have their own internal dynamics and potential to transmit. This, it is argued, calls for multilayered notion of food system and sustainability.

Overall the evidence presented here reinstates the point made earlier in the previous section that the notion of market-based efficiency measured through prices, consumer choices, and net profit, etc. may limit the scope for assessing other equally important dimensions of food (such as quality, health, employment, and inclusion of the poor, etc.) owing to the absence of a comprehensive (and interdisciplinary) approach to food across different spatial scales.

#### **4.4 Green Initiatives and Fair Trade in India: What Do We Learn?**

With burgeoning middle class of about 300 million people, India is seen to be poised for a major revolution in the food sector with rapidly increasing role for the large-scale retailing sector with global supply chain (Higgins and Aradhey 2009; Reardon et al. 2003; NABARD 2011). An Indian on an average spends about 42 % of the total private consumption expenditure on food (Higgins and Aradhey 2009). Driven by the concerns about rising aspirations and the need to serve an investment-starved sector along the food supply chain catering to urban consumers, the Government of India has finally opened up the door for large-scale global players to enter the agri-food retail sector, notwithstanding the huge political and ideological battle across various stakeholders in the country. At the moment, the battle is settled with an optimistic note that India is a huge and already segmented market, and that large-scale retailing will not substantially harm the informal segment within the food sector; rather, it may help the latter by enhancing investment in infrastructure for storage, transport, and price realization for the producers as well as processors. The perspective of coexistence (or duality) is hailed high in the current discourse on the agri-food retail sector in the country. Besides, there are safeguards created within the recent policy, which are expected to take care of the small producers along the supply chain.

It is not our intention to revisit the rich and highly nuanced debate on the entry of FDI in India's multi-brand retail sector as noted in the introduction. Rather, the intention here is to discuss and contemplate the likely environmental implications of the projected expansion of large-scale retailing with the entry of some of the giant corporations, such as Walmart, Tesco, and others in addition to the existing Indian corporations in the sector. This is pertinent because the environmental and also equity issues are conspicuously absent in the current debate, perhaps maintaining that these are essentially domestic issues which need to be sorted out through domestic policies rather than shifting the burden on the large multinational corporations bringing huge investment into the food economy.

The central argument put forward in this section is that the coexistence or duality framework, when it comes to the basic sector such as food economy in India, is likely to deepen the duality, while intensifying the depletion of environmental and natural resources in India's farm economy. And, that the global standards brought through private corporations and/or consumers (within and outside the country) may not be of much help in addressing the complex conflict between environment, food security, and livelihood within the specific context of India.

The above argument could be highlighted through a few hypothetical examples. Let us take the case of fruits and vegetables. The private standards adopted by the large retailers and/or consumers often refer to the use of chemical inputs, especially pesticides, food safety and hygiene, and at times labour processes. These standards often do not refer to the larger environmental issues such as depletion of ground water, land use change shifting away from subsistence crops, including pastures for livestock, GHG emissions in transportation and refrigeration, affordability among

local consumers, etc. In this situation, if the framers manage to mobilize land, water, and marketing channel to grow exotic fruit, flowers, or vegetables on a land that would have ideally grown cereals, pulses, fodder, or even locally consumed affordable fruits—all these having high nutrition value for the poorer consumers, the private standards do not come in the way. For what is being emphasized in these globally adopted standards are the concerns for GHG emissions at the production stage, and transportation, especially by air in this case, is deemed inevitable within a global trade framework.

There are numerous cases in India where horticulture and specialized varieties of vegetables have started being grown not only in the urban hinterlands, but also in all kinds of agro-climatic conditions in response to the growing urban demand and rapidly shifting food habits among relatively better-off consumers thereof. Now, that there is, of late, a growing subset of consumers who could afford to pay fairly high prices for some of the 'high-value' food products such as fruits, vegetables, milk-, meat-, and fish products, and auxiliary items such as soft drinks and beverages, it makes a perfect economic (and marketing) rationale to promote the production (or import) of such products. In most cases, these food commodities require a fair amount of processing, packaging, and transportation. But as long as there are buyers to pay for all these 'additional' environmental and resource costs with low/no application of chemical inputs, the products could be produced, distributed, and consumed irrespective of their implications for what could have been a more appropriate use of land and other natural resources that could have helped both environment and the poor. In any case, one is not sure of the food value of the hygienically produced and packaged food.

In a country where a large proportion of the consumers, including urban consumers, are still grossly deprived of basic cereals, pulses, cooking oil, milk, meat, fish, fruits, and vegetables, preferences of a relatively smaller set of urban consumers may not be the best way to judge what should be produced, how, and for whom? There are clear trade-offs in deciding resource allocation where millions of poor and also not so poor are underfed, no matter what the minimalist poverty line adopted in India may indicate.

In this context, the choice between reaching out to a large proportion of Indian consumers with milk (as against cheese, chocolates, ice cream), edible oil (as against other fats), fresh and nutritious (and also culturally suitable) vegetables, and not so expensive fruits (as against fruit juices, pulp, and wine) require public policy intervention rather than leaving the decision to be driven by those who could afford the diversification of the food basket of any kind.

The issue raised above could be exemplified by the case of the widely acclaimed milk cooperatives in Gujarat and in other parts of the country. A number of studies in the past have suggested that the large milk cooperatives, for example Amul, Sagar, Sumul, etc. in Gujarat have worked better where the member households have both land and water for irrigation. As a result, the dairy sector in the state has become increasingly water intensive rather than being an integral part of a farming system suitable to the large tracts of dry land region in the state. It appears that a large part of the profitability of the dairy sector thus hinges on the use of the most

precious ground water in the state. What is in fact concerning is that in spite of the milk revolution, a large proportion of the consumers in the state are far from the desirable level of milk consumption. Strangely, the state is trying to overcome this deficiency by providing children with fortified milk powder, often imported and having high environmental footprints as has already been noted in the previous section.

Similar examples could be cited with respect to some of the home-grown fruits like apples, oranges, grapes, bananas in India. Whereas it is true that the production as well as access to these fruits has increased over time, it is not very far from now when these fruits may become inaccessible to a large number of consumers (because of higher prices relative to the disposable income). A good marketing option therefore is to process them and make them available over a longer period of time perhaps to the same set of consumers who could afford to purchase them at higher price, but seasonally.

Packaging as an integral part of the modern retailing is yet another wasteful activity that has been brought into the realm, under the guise of convenience, aesthetic appeal, and, at times, ease of transportation. Whereas there is often a need for a minimum necessary packaging material for safe and hygienic handling of various food items, much of this is related to the concern for increasing shelf life of the products. The need for this arises mainly because of the processing, refrigeration, and transportation involved in bringing a wide variety of food products waiting for the consumers to buy and consume. Some of the green initiatives either by the corporate sector or consumers are to adopt a minimalist approach, for example to reduce or ban the use of plastic bags at the end of the packaging channels. These, at best, are examples of good gestures, but without any significant implications of the environmental impact of a long supply chain.

There is of course no doubt that a lot of jobs are likely to get created at processing and packaging stages of the supply chain. The question that needs to be asked is whether a more decentralized food processing sector would have brought larger overall benefits to the economy or not. Processing of home-made traditional products such as potato chips, and wide range of such items, could be promoted for a thriving decentralized food-processing sector, rather than being driven out of the market competition brought through large-scale retailers into the market. Aggressive marketing in the name of healthy food could also do the same damage as packaging can do not only to the environment but also to the local economy.

Experience from a couple of fair-trade initiatives in India also brings home somewhat similar outcomes, where they offer better options to a small subset of farmers and workers linked with buyers from the developed economies who have adopted and also facilitated the Indian producers to follow relatively better environmental and labour standards than those usually done in the country. Such efforts are of course steps in the right direction. Whether these initiatives could eventually impact the larger production and/or consumption systems across the globe is, however, somewhat doubtful. For instance, a fair-trade initiative under the aegis of Responsible Soybeans in India has put in place a fairly elaborate process for

the Indian farmers to produce environmentally sustainable and socially responsible that has a built-in mechanism for certification, etc. These certificates are amenable for global trading, thereby the initiative may have larger implications than what a specific buyer or producer may realize by being part of the system. Though, laudable, the system once again, underlines the importance of global food trade without necessarily addressing the issue of long-distance transport of basic food (or feed in the case of soybean) products on the one hand and consumption pattern on the other (ASA 2012). Another example of fair-trade initiative in India relates to crops like tea plantation and cotton. While there are initial difficulties in actual operationalization and awareness creation among producers, workers, and other stakeholders, the experience from a number of studies suggests that the economic benefits such as increase in income, quality of products, labour standards, participation in decision making, etc. realized through such mechanisms are often mixed, and uncertain subject to the fluctuations in the global markets (Smith 2013). These examples, in turn, may suggest that though well intended, such initiatives in absence of corresponding changes in the larger trade framework may attain limited impacts. In any case, such standards have got to be modified and fine-tuned with the larger set of policies and environmental/labour legislations if the initiatives are to make substantial impact on the domestic economy within India. Such examples at best could serve as useful guidelines for the domestic policies that are yet to address the issue of sustainable agriculture on a large scale. Needless to mention that there are serious difficulties in arriving at practical policies owing to multiple objectives and trade-offs facing this critical sector in India. Fair-trade initiatives, thus, need to shift the locus of the policy debate that could influence the global discourse on food production, consumption, and trade in a comprehensive manner.

A number of such possible examples could be cited from the common-place observations into the rapidly transforming food supply chain in the country. That there is no systematic assessment of the environmental impacts of alternative systems, however, does not help to rule out some of the known impacts of the large-scale retail system as demonstrated by select evidence from some of the developed economies in the West. It does not require huge imagination that (1) in a country like India the range of alternative food systems would be larger and multifold as still a large proportion of the people (almost twice the size of the middle-income population) and workforce live in rural areas, (2) there are a large number of underfed people whose food requirement for a basic yet diversified food basket is yet to be met, and (3) the economy has limited natural resources to meet the growing demand/needs of both the rich and the poor.

The trade-off has a huge implication on how the limited natural resources will be put to sustainable use. The other option from procuring and transporting food products from long distance will have larger footprints as compared to domestically procured food items. This is pertinent since India has fairly diverse agro-climatic conditions to produce a wide range of food products. This is not to rule out any possibility of internationally traded food products. Rather the moot point is to realize that the trade-off between welfare of the rich and poor consumers is likely to have additional environmental and equity implications, and that the two are closely

interconnected. This brings us back to the point made earlier about the coexistence perspective suggesting that in many of the developing economies including India, the modern and the traditional retailing sectors would continue to coexist. The discussion in this section suggests that the two may coexist but not without any cost to environment and the poor.

Prima facie, the complacency derived from coexistence perspective emanates from a deep-rooted mindset that if the poor cannot afford, this cannot be the problem of the rich. Conversely, if the rich are deprived of what they aspire to eat and consume, that by itself does not ensure that the poor will get adequate food. The underlying rationale perhaps is that the realities of the rich and the poor within the same economy are disconnected from each other. This assumption (about disconnect and absence of a real trade-off) appears to be not only counter-intuitive but also flawed as suggested by some rudimentary hypothetical situations discussed in this section.

The recent discourse on FDI in agri-food retail in India is based on a marketing premise where increasing urbanization, women workforce, and per capita income all lead to a new lifestyle and aspirations among the relatively better-off urban consumers (Reardon and Minten 2011). It is argued that this transformation in India's food consumption pattern and lifestyle makes a good business sense for the multinationals to invest in the food supply chain in India. This discourse does not address the issue of equity and food security because it contemplates only about 20–30% share in the total food retail market by say 2030. The argument, therefore, is: Let those who already have adequate purchasing power and right kind of modern lifestyle aspirations be served through this more efficient supply chain. What seems to be grossly missing in this argument of dual market economy is that a small segment of high-end consumers can have much larger environmental footprint within and beyond the domestic economy as has been demonstrated by select evidence from the developed economies. In the process, it can also distort policy signals for resource allocation, besides creating a snowball effect on other consumers who may plunge into a lifestyle and food habits that are neither desirable nor easily affordable.

The need therefore is to rewind and relocate the entire debate by asking whose consumption, at what environmental cost, and what kind of public support are to be upheld at this stage in India's economic development, where those who have attained adequate and healthy food consumption are, though large in number, still a minority, whereas many more are still waiting to meet these basic requirements without further damaging the environment within and outside the country.

## 4.5 Summing Up

The issue of environmental impact of the food supply chain is slowly gaining recognition in the contemporary discourse on global food system. The issue assumes special significance because food production is by far the largest provider of biodi-



versity and yet the most important user of the scarce land and water resources the world over. Besides, next to clean air and water, healthy food in adequate quantity is a major source of human wellbeing and capabilities. The upsurge of modern agri-food retailing with global supply chains, highly acclaimed for offering market efficiency and consumer satisfaction, seems to have significant environmental impacts owing to elaborate processing and packaging, refrigeration, and transportation involved in global supply chain.

The empirical evidence, emerging mainly from developed economies, where the large-scale global retail sector has made major inroads over a long period of time, have gone into ascertaining various environmental impacts at different stages of the supply chain. Most of the studies, however, have focused mainly on GHG emissions rather than on natural resource sustainability, diversity, and sustenance of local ecosystems. Though mixed, the evidence by and large bring home the central point that larger distance and refrigeration besides uniformity in quality, etc. do result in higher GHG emissions, pesticide use, and wastage. The studies however are constrained by data limitations and, more importantly, by the limited options that the model seeks to consider as counter-factual to what is already established as production technology (i.e. organic vs. conventional) and/or consumer's preference, convenience, and demand (for diverse, easy-to-carry and store, quick-to-use) food products especially in the Western world.

Unfortunately, the Indian story is assumed to follow a similar pathway despite the stark differences in the structure of production and consumption marked by huge constraints stemming from natural resource endowment and depletion on the one hand and large-scale underconsumption of food on the other. The dominant discourse therefore is that of coexistence and duality in the food supply system to prevail for a long time in the Indian situation. The adverse environmental impacts of the large-scale retail sector would thus be left to the green initiatives of the corporate sector or the well-off consumers as has been the case till now in most of the developed economies.

It is, however, naïve to assume that the dual (food) economy system will work in isolation of each other as the trade-offs in resource use, nature of products, and value addition for the two sets of supply chain do not exist. Based on some anecdotal evidence, it has been argued that the coexistence or duality framework, when it comes to the basic sector such as food economy in India, is likely to deepen the duality while intensifying environmental-natural resources depletion in India's farm economy. And that the global standards brought through private corporations and/or consumers (within and outside the country) may not be of much help in addressing the complex conflict between environment, food security, and livelihood within the specific context in India. This would imply public policies to take the centre stage in laying out a road map for sustainable agriculture and food system in the context-specific situation; this should precede expansion of the modern retail sector, rather than the latter setting the tone for India's food supply system in future.

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**Part II**  
**International Experience with Organised**  
**Retail**

# Chapter 5

## Supermarket Growth and Rural Welfare: Evidence from Kenya

Elizaphan James O. Rao and Matin Qaim

### 5.1 Introduction

Agri-food systems in many developing countries are experiencing increasing demand for high-value products, and have a tendency towards supply chain modernization (McCullough et al. 2008; Mergenthaler et al. 2009; Pingali 2007; Pingali et al. 2007). These changes are driven by different factors, including rising incomes and urbanization. Urban consumers often demand higher levels of food quality and food safety, as well as higher consistency in supply. Traditional markets lack the coordinating capacity to ensure consistency in supply, and they suffer from information asymmetries, which limit the flow of information required to assure product quality and safety (Grosh 1994; Simmons et al. 2005). As a result, supermarkets and other modern retail formats with new procurement systems are gaining ground in many developing countries (Dries and Swinnen 2004; Reardon and Berdegue 2002; Weatherspoon and Reardon 2003). Supermarkets often adopt tighter coordination along the supply chain using contracts with preferred suppliers and traders (McCullough et al. 2008).

The transformation of food systems and the increasing role of supermarkets can have far-reaching implications for smallholder farmers and other rural households (Hernández et al. 2007; McCullough et al. 2008; Neven et al. 2009; Reardon et al. 2008; Andersson et al. 2015; Chege et al. 2015). For farmers, participation in supermarket procurement channels may potentially be associated with higher prices, price stability, and market assurance, which could contribute to rising farm productivity, income gains, and poverty reduction. More intensive farm production and commercialization could also have positive employment effects for rural labor households. However, supermarkets have higher requirements in terms of product

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quality and consistency. This may pose technical barriers for smallholders to enter supermarket procurement channels (Balsevich et al. 2003). Smallholders may also be excluded from modern supply chains due to high transaction costs, which could contribute to further marginalization. From a development policy perspective, it is important to better understand how rural households are affected by the growth of supermarkets and related changes in food supply chains.

In this chapter, we present findings from a study of smallholder farmers in Kenya who supply vegetables to different market outlets. Our findings show that participation in supermarket supply chains increases household income and reduces poverty (Rao and Qaim 2011; Andersson et al. 2015). Moreover, we show that supplying to supermarkets increases farm productivity (Rao et al. 2012) and causes higher labor demand. Positive employment effects are shown to be especially pronounced for female laborers (Rao and Qaim 2013). However, we also find that technical requirements by supermarkets present entry barriers to these emerging supply chains, which may have to be addressed through institutional support. In the following sections, we first present the underlying data from Kenya before discussing the different results in greater detail.

## 5.2 Data

Data for this study come from a survey of vegetable farmers that was conducted in Kiambu District, Central Province of Kenya, in 2008. Kiambu is relatively close to Nairobi, where most of the country's supermarkets can be found. But also before the spread of supermarkets, this district was one of the main vegetable-supplying areas for the capital city. In total, our sample comprises 402 farmers—133 supermarket suppliers and 269 traditional channels suppliers (Rao and Qaim 2011). Both types of farmers produce vegetables in addition to maize, bananas, and other cash crops. The main vegetables produced are leafy types, including exotic ones such as spinach and kale, and indigenous ones such as *Amaranthus* and black nightshade, among others.

Trade in traditional vegetable markets often involves one-off transactions between farmers and wholesalers/traders with neither promise for repeated transactions nor prior agreements on product delivery or price. In contrast, supermarkets do have agreements with vegetable farmers regarding product price, physical quality and hygiene, and consistency and regularity in supply. Price agreements are made before delivery, and prices are relatively stable. Payments are usually only once a week or every fortnight. All agreements are verbal with no written contract. Some farmers also supply supermarkets through special traders. Based on similar verbal agreements, these traders again maintain regular contacts with farmers in order to be able to supply supermarkets in a timely and consistent way. Strict supply requirements by supermarkets have led to specialization among traders. Consequently, supermarket traders tend to exclusively supply modern retail outlets.

Given the risk of exclusion, there are various organizations in Kenya trying to link smallholders to supermarkets and other modern supply chains. One such

organization active in Kiambu is an NGO named Farm Concern International (FCI). FCI trains farmer groups on production of vegetables before linking them to various supermarkets in Nairobi. FCI also promotes collective action and—through training efforts—helps farmers to meet the strict delivery standards imposed by supermarkets. Our sample covers 80 vegetable farmers currently involved in the FCI project. Out of these, more than half were already supplying supermarkets at the time of our survey.

Table 5.1 shows selected characteristics of supermarket and traditional channel suppliers. On average, supermarket suppliers own more land and cultivate larger areas of vegetables. They also tend to be somewhat more specialized on vegetable production and have a higher tendency to use advanced irrigation technology, such as sprinklers or drip irrigation. There are also significant differences with respect to education levels and participation in off-farm employment. Better educated vegetable growers are more likely to supply supermarkets, as are farmers with off-farm employment. Significantly more of the supermarket suppliers also have own means of transportation and access to public transportation. This gives them an advantage in supplying supermarkets that demand stricter delivery schedules.

**Table 5.1** Characteristics of supermarket and traditional channel suppliers

Variables	Supermarket ( $n=133$ )		Traditional market ( $n=269$ )	
	Mean	SD	Mean	SD
Gender of operator ( <i>male dummy</i> ) (%)	93.2	25.2	88.1	32.4
Total area owned ( <i>acres</i> )	2.692**	5.607	1.870	2.485
Total vegetable area cultivated ( <i>acres</i> )	1.168***	1.457	0.697	0.992
Ownership of livestock (%)	83.4	37.2	80.7	48.1
Share of vegetable area (%)	68.8*	31.9	62.8	32.5
Use of advanced irrigation technology (%)	87.9***c	32.7	71.4	45.3
Age of operator ( <i>years</i> )	47	12	49	15
Education of operator ( <i>years of schooling</i> )	10.3***	3.14	8.72	4.05
Household size ( <i>number of people</i> )	4	2	3	2
Household access to public piped water (%)	29	46	38	49
Own means of transport (%)	24.1**	42.9	8.9	28.6
Availability of public transport in village (%)	88.7**	31.8	79.9	40.1
Proximity to tarmac road (%)	48.9	50.2	52.4	50.0
Credit accessed in the last 12 months (%)	10.5	30.8	9.7	29.6
General farming experience ( <i>years</i> )	16.16**	11.60	17.89	13.33
Participation in FCI market linkage (%)	34.6***	47.7	12.6	33.3
Off-farm employment of farmer (%)	61***	47	43	50

SD standard deviation, FCI Farm Concern International

\*, \*\*, \*\*\* Mean values are significantly different from traditional market suppliers at 10, 5, and 1% levels, respectively

### 5.3 Supermarket Impacts on Household Income and Poverty

We now analyze how supermarket and traditional channel suppliers compare in terms of income and poverty. The comparison of vegetable gross margins in Table 5.2 shows significant differences: gross margins achieved by supermarket suppliers are much higher. Revenue differences are due to higher yields obtained by supermarket suppliers and also higher mean prices. In terms of costs, supermarket suppliers spend significantly more on hired labor. On the other hand, farmers supplying supermarkets use slightly less inorganic fertilizer. Instead, they use more farmyard manure, which adds organic matter to the soil and—according to farmers’ own statements—entails a quicker regeneration of the vegetable leaves after harvest. This is important, because in supermarket channels vegetables have to be supplied on a regular basis.

Since gross margins from vegetable production only provide a partial picture of household welfare, we also look at differences in terms of total household incomes. Total household income in our case is composed of farm income (total revenue from all farm enterprises less operational costs) and off-farm income (total of salaries, wages, and profits from off-farm business enterprises for the entire household). As can be seen in Fig. 5.1, farm, off-farm, and total incomes are notably higher for supermarket suppliers than for households supplying vegetables to traditional channels. Supermarket suppliers also dominate traditional market suppliers across the entire distribution of household income, as can be seen from Fig. 5.2.

Superior incomes also translate into lower poverty rates among supermarket suppliers, as can be seen in Fig. 5.3. Poverty incidences were calculated based on 1.25 and 2 \$ a day poverty lines for extreme and moderate poverty, respectively. These poverty lines were converted to local currency equivalents using purchasing power parity exchange rates.

**Table 5.2** Vegetable gross margin for supermarket and traditional channels suppliers

	Supermarket ( $n=133$ )		Traditional market ( $n=269$ )	
	Mean	SD	Mean	SD
Gross revenue ( <i>Ksh/acre</i> )	116,636***	129,370	73,179	60,136
Seed cost ( <i>Ksh/acre</i> )	2,175	5,428	1,660	3,021
Hired labor cost ( <i>Ksh/acre</i> )	6,330**	10,019	4,722	7,481
Fertilizer cost ( <i>Ksh/acre</i> )	4,846*	7,485	5,781	6,379
Purchased manure cost ( <i>Ksh/acre</i> )	8,666***	14,099	5,712	8,751
Pesticide cost ( <i>Ksh/acre</i> )	1,104	1,922	1,179	1,835
Other cost ( <i>Ksh/acre</i> )	1,271**	4,723	623	2,167
Gross margin ( <i>Ksh/acre</i> )	92,244*	114,202	53,502	54,677

SD standard deviation

\*, \*\*, \*\*\*Mean values are significantly different from traditional market suppliers at 10, 5, and 1% levels, respectively. 1 US \$=75 Ksh



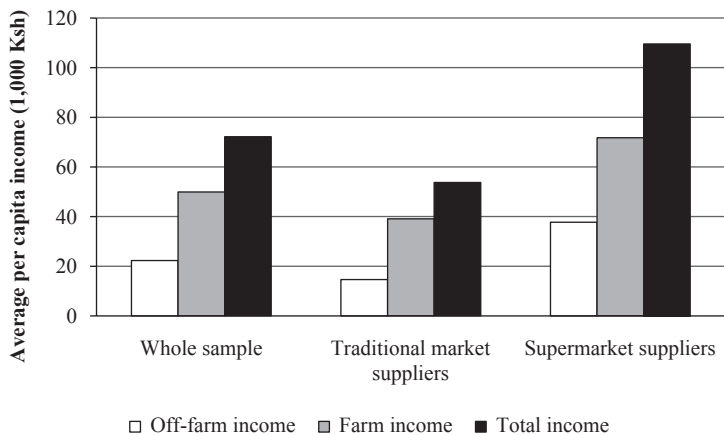


Fig. 5.1 Average annual per capita income by market channel

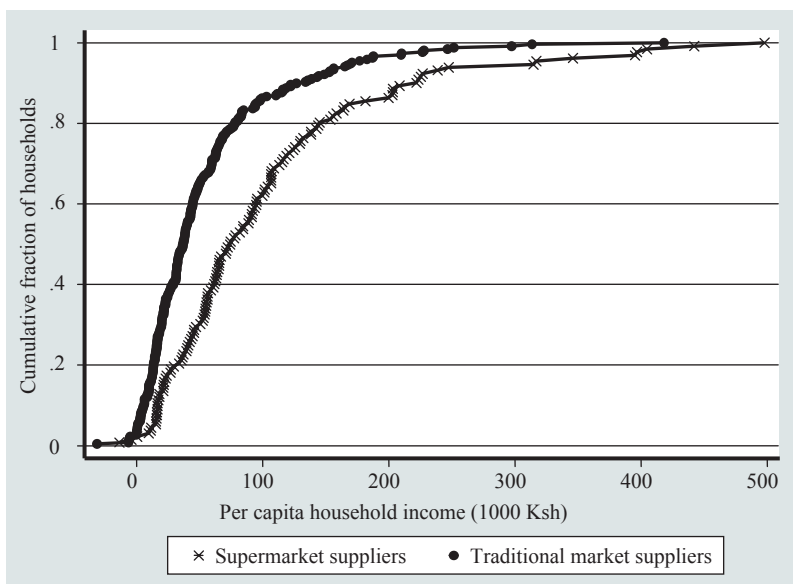
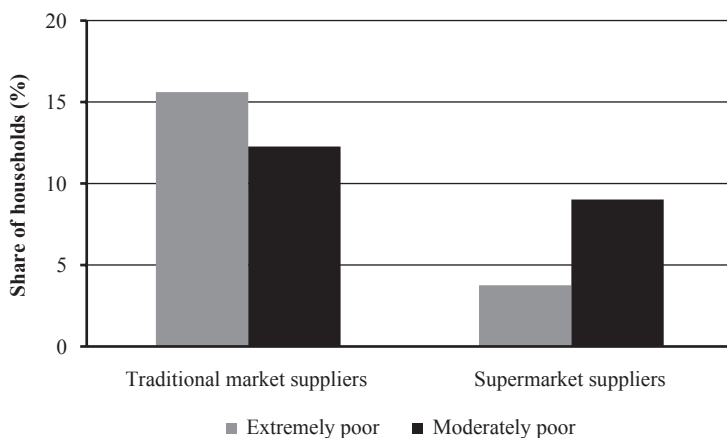


Fig. 5.2 Cumulative distribution of annual per capita income by market channel

### 5.3.1 Determinants of Supermarket Participation

Based on the observed differences, we expect that participation in supermarket channels has a positive effect on household income. However, because farmers self-select into the group of participants, the comparison between supermarket and traditional channels suppliers alone is not sufficient to establish unbiased net impacts.



**Fig. 5.3** Incidence of poverty by market channel

Especially when more efficient farmers, whose incomes are higher anyway, are more likely to participate in supermarket channels, the simple income comparison would be overestimated. To account for systematic differences across the two groups of farmers and estimate unbiased income effects of supermarket participation, we used an endogenous switching regression model that treats market channels as regime shifters. The income equations for the two regimes were estimated jointly with a binary model predicting the probability of farmer participation in supermarket channels. The probit participation model is also interesting in itself, because it helps to better understand the determinants of and constraints to supermarket participation. Table 5.3 shows the results of this probit participation model.

Better educated farmers are more likely to participate in supermarket channels. This is plausible, because education helps farmers to better adjust to the new production and market requirements. In general, better educated farmers tend to be more innovative and therefore more likely to participate in emerging supply chains. Older farmers are also more likely to participate in supermarket channels, which is probably related to longer experience. Yet the negative and significant coefficient for the square term of age indicates that there is an inverse U-shaped relationship, implying that beyond a certain age farmers become less innovative again. Farmers who are engaged in off-farm employment are more likely to participate in supermarket channels, as are those with larger areas of land. Moreover, ownership of a means of transportation and availability of public transportation in the village increase the likelihood of participation. This is plausible because—unless there are specialized traders—farmers have to deliver their produce themselves to the supermarket locations. These results underscore that infrastructure, which is key for linking farmers to markets in general, is equally important in the context of emerging modern supply chains.

Finally, institutional support by FCI—the NGO that tries to link farmers to high-value markets—has a positive and significant influence on supermarket

**Table 5.3** Probit model for determinants of participation in supermarket channels

	Coefficient	Standard error
Gender of operator ( <i>male dummy</i> )	0.278	0.285
Education of operator ( <i>years</i> )	0.070***	0.024
Age of operator ( <i>years</i> )	0.196***	0.048
Age of operator squared ( <i>years</i> )	-0.002***	0.001
Household size ( <i>number of people</i> )	-0.207***	0.056
Off-farm employment ( <i>dummy</i> )	0.340**	0.137
Total area owned ( <i>acres</i> )	0.076**	0.037
Use of advanced irrigation technology ( <i>dummy</i> )	0.178	0.186
Ownership of livestock ( <i>dummy</i> )	0.135	0.196
Household access to electricity ( <i>dummy</i> )	0.018	0.220
Own means of transportation ( <i>dummy</i> )	1.078**	0.488
Availability of public transportation in village ( <i>dummy</i> )	0.611**	0.264
Proximity to tarmac road ( <i>dummy</i> )	-0.058	0.153
Household access to public piped water ( <i>dummy</i> )	-0.198	0.145
Credit accessed in the last 12 months ( <i>dummy</i> )	0.171	0.332
Participation in FCI market linkage program ( <i>dummy</i> )	1.084***	0.282
Limuru region ( <i>dummy</i> )	-0.824*	0.491
Kikuyu/Westland region ( <i>dummy</i> )	0.924**	0.442
Githunguri and lower Lari region ( <i>dummy</i> )	0.252	0.508
Constant	-4.401***	1.225
<i>Number of observations</i>	402	

*SD* standard deviation, *FCI* Farm Concern International

\*, \*\*, \*\*\*Significant at 10, 5, and 1% levels, respectively

participation. FCI negotiates with supermarkets on behalf of farmers. The NGO also facilitates farmer collective marketing approaches and offers training on production techniques and special supermarket requirements. These activities reduce transaction costs and contribute to making smallholder farmers more reliable trading partners for supermarkets. Equally important is the so-called invoice discounting service, that is, FCI anticipates payments to farmers when they present a supermarket delivery receipt; in that case, supermarkets later pay FCI instead of farmers directly. This mechanism enables even relatively poor households with immediate cash needs to participate in supermarket channels, despite the lagged payment schedule. These are important findings from a policy perspective. Where no NGO like FCI is operating, public agencies might potentially take on such roles of institutional support.

### 5.3.2 *Income and Poverty Effects of Supermarket Participation*

Results of the two income regime equations are shown in Table 5.4. The estimates indicate that there are indeed structural differences across the two market

**Table 5.4** Parameter estimates for household income

	Supermarket suppliers		Traditional market suppliers	
	Coefficient	SE	Coefficient	SE
Gender of operator ( <i>male dummy</i> )	14.031	25.542	11.775	10.163
Education of operator ( <i>years</i> )	2.182	2.474	1.322	0.877
Age of operator ( <i>years</i> )	0.749	0.754	-0.144	0.257
Household size ( <i>number of people</i> )	-8.610	6.055	-1.789	1.798
Off-farm employment ( <i>dummy</i> )	56.513***	19.413	25.437***	6.421
Total area owned ( <i>acres</i> )	1.788	1.111	7.235***	2.543
Use of advanced irrigation technology ( <i>dummy</i> )	14.532	18.008	17.984***	6.165
Ownership of livestock ( <i>dummy</i> )	14.142	20.867	20.531***	7.614
Household access to electricity ( <i>dummy</i> )	9.882	21.872	16.748***	5.095
Own means of transportation ( <i>dummy</i> )	98.950***	33.442	34.481*	19.946
Proximity to tarmac road ( <i>dummy</i> )	2.954	17.289	5.273	5.239
Household access to public piped water ( <i>dummy</i> )	-46.028***	16.199	9.353	6.783
Credit accessed in the last 12 months ( <i>dummy</i> )	-59.075***	20.354	-10.685*	5.848
Limuru region ( <i>dummy</i> )	112.152**	55.920	11.211	10.648
Kikuyu/Westland region ( <i>dummy</i> )	-9.395	38.388	5.696	11.718
Githunguri and lower Lari region ( <i>dummy</i> )	-35.033	36.402	5.313	11.522
Constant	6.053	57.315	-37.045**	18.389
<i>Number of observations</i>	402			
<i>Log likelihood</i>	-2401.445			
<i>F-statistic</i> $\chi^2$	67.700***			

SE standard error

\*, \*\*, \*\*\*Significant at 10, 5, and 1% levels, respectively. The dependent variable is annual per capita income measured in thousand Ksh

channels. For instance, off-farm employment and ownership of an own means of transportation have a positive and significant influence on per capita income in both market channels, but the effects are much bigger among supermarket suppliers. This suggests that supermarket suppliers use off-farm income and own vehicles in a more productive way than their colleagues in traditional market channels. There are also several other differences observed between the two regimes, which are discussed in greater detail in Rao and Qaim (2011). Here, we are more interested in analyzing the net income effects caused by supermarket participation, once all confounding factors have been controlled for. To obtain these net income effects, the estimates of the regime equations were used for simulating household income effects with and without supermarkets, controlling for observed and unobserved heterogeneity (Rao and Qaim 2011).

Results of these simulations are shown in Table 5.5. Significant positive net income effects can be observed: participation in supermarket channels produces a

**Table 5.5** Impact of participation in supermarket channels on income and poverty

	No. of observations	Without supermarket	With supermarket	Net change (%)
<i>Annual per capita income (1000 Ksh)</i>				
All supermarket suppliers	133	73.654	109.280	48***
<i>By land holding</i>				
Supermarket suppliers owning <1 acre of land	62	52.762	87.963	67***
Supermarket suppliers owning 1–2 acres of land	29	71.001	100.150	41***
Supermarket suppliers owning >2 acres of land	42	106.328	147.046	38***
<i>By poverty status</i>				
Extremely and moderately poor	17	49.851	79.752	60**
Nonpoor	116	77.143	113.605	47***
<i>By supply category</i>				
Direct suppliers	96	74.754	112.680	51***
Suppliers through traders	37	70.802	100.451	42***
<i>Poverty incidence (%)</i>				
Extremely and moderately poor		5	4	–20
Nonpoor		95	96	1

\*\*, \*\*\*The net change (difference between predicted income with and without supermarkets) is significant at 5 and 1% levels, respectively

net gain of 48% in per capita incomes. Table 5.5 also show results disaggregated by farm size and poverty status. Supplying supermarkets can lead to improvements in income distribution. With an average income gain of 67%, small-scale farmers owning less than one acre of land benefit overproportionally. Likewise, extremely and moderately poor households benefit more than nonpoor households. These differences can partly be explained by the fact that small and poor farmers tend to engage mostly in subsistence farming. Hence, the option to supply supermarkets at more stable prices provides new incentives to commercialize farm activities, leading to substantial gains in household income. Another disaggregation in Table 5.5 shows that farmers who supply supermarkets directly gain more than their counterparts who supply through specialized traders. This is plausible: without intermediaries, a bigger share of the price paid by supermarkets accrues to primary producers.

We also used the model results to simulate the impact of supermarket participation on the incidence of poverty. For this purpose, the predicted poverty incidence with participation in supermarket channels was compared with the same prediction assuming no participation. Results are shown in the lower part of Table 5.5. They suggest that supermarket participation reduces the incidence of extreme and moderate poverty by 20%, which is quite remarkable. Since the number of poor households in our sample is relatively small, the exact results should be interpreted with some caution. Nevertheless, the findings show that supermarket participation can improve household incomes in the small farm sector and contribute to poverty reduction.

## 5.4 Farm Productivity and Efficiency Effects

How exactly can the large and significant positive income effects of supermarket participation be explained? The main reasons are probably gains in productivity and efficiency of vegetable production that are induced by new incentives and requirements in modern supply chains (Hernández et al. 2007; Minten et al. 2007; Neven et al. 2009). For instance, participation in supermarket channels is associated with stricter requirements in terms of quality and consistency in supply. Hence, many of the supermarket farmers in Kenya have adopted more advanced irrigation equipment, improved seeds, and other modern technologies. Moreover, participation in supermarket channels may contribute to higher technical efficiency through better access to production and market information. Sometimes, supermarkets and other agribusiness firms provide agricultural extension to farmers under contract (Masakure and Henson 2005; Schipmann and Qaim 2010). Finally, assured markets and more stable prices may entail an increase in scale efficiency (Michelson et al. 2012). Due to risk considerations, smallholders often diversify their income sources. Therefore, reduced market risk may allow a higher degree of specialization in farm production.

To measure productivity and efficiency effects of supermarket participation for vegetable producers in Kenya, we used an approach that disaggregates different potential sources of productivity growth, such as changes in technology, technical efficiency, or scale efficiency. We already saw above that supermarket and traditional channel suppliers have significant differences in yields, input use, and costs of production, pointing at different production practices and technologies used. This implies that the two groups are operating under different production possibility frontiers. We accounted for these differences in our productivity analyses by estimating group-specific frontiers and a meta-frontier (MF) that envelops the group-specific frontiers (O'Donnell et al. 2008). This enabled us to estimate a meta-technology ratio (MTR), which is the ratio of output for the frontier production function for each group relative to the potential output defined by the MF function, given the observed inputs. The MF also allowed us to estimate technical efficiency and scale efficiency for supermarket and traditional channel farmers. Scores for MTR, technical efficiency, and scale efficiency all range between 0 and 1; higher scores imply higher levels of productivity and efficiency.

Details of the estimation results are shown and explained in Rao et al. (2012). Here, we build on those results to derive net productivity and efficiency effects of supermarket participation. Again, we have to account for self-selection when comparing results between supermarket and traditional channel suppliers. In order to control for selection bias, propensity score matching (PSM) was used (Caliendo and Kopeinig 2008). Instead of simply comparing the outcome variables between all supermarket and traditional channel farmers, PSM compares outcomes only between those supermarket and traditional farmers that are similar in terms of other observable characteristics, thus reducing the bias that would otherwise occur when the two groups are systematically different.

**Table 5.6** Effects of supermarket participation on vegetable productivity and efficiency

Outcome	Net effect of supermarket participation
Meta-technology ratio (MTR)	0.23*
Meta-frontier technical efficiency	0.13*
Scale efficiency	0.23*

\* Significant at the 1% level

Table 5.6 shows differences between matched productivity and efficiency scores, which can be interpreted as net effects of supermarket participation. Participation in supermarket channels leads to a 23 percentage point improvement in MTR. This corresponds to a 46% increase in MTR when using sample mean values for traditional farmers as the baseline. This confirms that supermarket participation provides new incentives to adopt improved technology.

Supermarket participation also leads to significant improvements in technical efficiency (13 percentage point improvement). In absolute terms, the impact on technical efficiency is lower than the MTR effect. This is not surprising, since many of the supermarket farmers are relatively young entrants into this new marketing channel. Entry into supermarket channels entails technological upgrading and changes in the input mix, which is reflected in the MTR. However, technological change may lead to lower technical efficiency in the short run, as farmers have to adjust to the new situation, which may be followed by a rise in the medium run due to learning effects. Finally, we find that supermarket participation significantly improves scale efficiency by 23 percentage points. These results confirm that greater price stability and market assurance in supermarket channels contribute to more scale-efficient resource allocation and gains from specialization. Overall, these results confirm our hypothesis that the large income increases from supermarket participation can be explained by significant gains in productivity and efficiency.

## 5.5 Employment Effects

Beyond the direct benefits in terms of productivity and income for farm households, supermarkets may also have positive indirect effects through employment generation in rural areas (Neven et al. 2009; Schipmann and Qaim 2010). Due to their labor-intensive nature, positive employment effects can be expected especially in fruits and vegetables (Barrientos et al. 2005; Maertens and Swinnen 2009). As mentioned, supermarkets often impose higher quality standards, which require intensified production and changes in traditional cultivation practices. Moreover, extra labor may be needed for additional postharvest operations, such as cleaning, packaging, and bunching of products ready for supermarket shelves (Neven et al. 2009). Higher labor demand in farm production may have implications for rural employment and off-farm income. While agricultural wage income constitutes a fairly small proportion of off-farm income in general, its relative role often increases with decreasing household incomes (Kijima et al. 2006; Kristjanson et al. 2010; Reardon

1997). Hence, agricultural employment arising from the expansion of supermarkets could benefit the poorest segments of the rural population, in particular.

Employment effects induced by supermarkets may also have a gendered dimension. Evidence shows that women farmers often find it more difficult to enter high-value channels as suppliers, due to women's lack of productive resources, such as land and capital (Dolan 2001; Maertens and Swinnen 2012). In the rural labor market, however, women may benefit substantially from modern supply chains and more intensified production, because female labor is often preferred for certain farm and postharvest operations. Increasing participation of women in the labor market is often associated with an overall improvement of women's status. Moreover, female-controlled income tends to have more positive effects on overall family welfare than male-controlled income (Quisumbing 2003).

### 5.5.1 Descriptive Results

Building on the data of vegetable farmers in Kenya, we analyze the impact of supermarket growth on farmers' demand for hired labor, differentiating between male and female workers employed for certain operations. Table 5.7 shows that a larger fraction of supermarket farmers employs hired labor for vegetable production. Likewise, the quantity of hired labor use is higher among supermarket suppliers than it is among traditional channel farmers. These patterns are similar to findings by Hernández et al. (2007) and Neven et al. (2009), supporting our hypothesis of increased hired labor demand through participation in supermarket channels.

Table 5.8 further disaggregates the use of hired labor by farm operation, using plot-specific data. The results confirm that more female than male labor is hired for vegetable production, irrespective of the marketing channel. Female labor is particularly preferred for weeding and harvesting, which are both labor-intensive operations. The lower part of Table 5.8 shows a breakdown by marketing channel. Strikingly, a significant difference between supermarket and traditional channels can only be observed for female hired labor. In total, supermarket farmers use significantly more female labor than their traditional channel colleagues. The differences are especially pronounced for weeding, harvesting, and packing. Regular

**Table 5.7** Use of hired labor among vegetable farmers

	Whole sample ( <i>n</i> =402)	Supermarket ( <i>n</i> =133)	Traditional ( <i>n</i> =269)
Farmers using hired labor (%)	75 (43)	84*** (37)	70 (46)
Farmers using female hired labor (%)	48 (59)	55** (59)	44 (50)
Farmers using male hired labor (%)	60 (49)	69*** (46)	55 (50)
Hired labor use ( <i>labor days</i> )	12.6 (20.1)	16.0*** (23.2)	11.0 (18.2)
Hired female labor use ( <i>labor days</i> )	7.2 (14.6)	9.8*** (18.4)	5.9 (12.1)
Hired male labor use ( <i>labor days</i> )	5.5 (11.6)	6.2 (11.2)	5.1 (11.8)

\*\*, \*\*\*Variables show significant differences between market channels at 5 and 1% levels, respectively. Mean values are shown with standard deviations in parentheses



**Table 5.8** Differences in hired labor use by gender of laborers and market channel (labor days per plot)

	Male hired labor ( <i>n</i> =402)		Female hired labor ( <i>n</i> =402)	
Total hired labor	5.46** (11.58)		7.19 (14.60)	
Land preparation	1.29*** (2.98)		0.25 (1.67)	
Planting	0.58 (1.73)		0.68 (2.59)	
Gap filling	0.05 (0.52)		0.03 (0.21)	
Weeding	1.42*** (4.24)		3.98 (9.85)	
Irrigation	0.66** (4.75)		0.15 (2.99)	
Pesticide application	0.21*** (1.17)		0.01 (0.12)	
Application of fertilizer and manure	0.22* (1.88)		0.08 (0.91)	
Harvesting	0.94*** (3.53)		1.93 (6.27)	
Packing	0.10 (1.11)		0.07 (0.86)	
	<i>Male hired labor</i>		<i>Female hired labor</i>	
	Supermarket ( <i>n</i> =133)	Traditional ( <i>n</i> =269)	Supermarket ( <i>n</i> =133)	Traditional ( <i>n</i> =269)
Total hired labor	6.24 (11.19)	5.08 (11.77)	9.76*** (18.40)	5.91 (12.14)
Land preparation	1.59* (4.30)	1.14 (2.03)	0.20 (0.65)	0.28 (1.99)
Planting	0.65 (1.81)	0.55 (1.69)	0.56 (1.12)	0.73 (3.07)
Gap filling	0.02 (0.16)	0.06 (0.63)	0.05* (0.25)	0.02 (0.19)
Weeding	1.82* (4.60)	1.22 (0.25)	5.32** (13.17)	3.32 (7.65)
Irrigation	0.35 (0.14)	0.81 (5.69)	0.45* (5.20)	0.01 (0.10)
Pesticide application	0.25 (1.18)	0.18 (1.17)	0.01 (0.08)	0.01 (0.14)
Application of fertilizer and manure	0.25 (1.38)	0.21 (2.09)	0.24*** (1.58)	0.00 (0.03)
Harvesting	1.13 (3.61)	0.84 (3.50)	2.73** (8.21)	1.53 (5.02)
Packing	0.16 (1.14)	0.07 (1.10)	0.20** (1.48)	0.01 (0.08)

\*, \*\*, \*\*\*Variables show significant differences between gender of hired labor and market channels, at 10, 5, and 1% levels, respectively. Mean values are shown with standard deviations in parentheses

weeding and more effort in harvesting and packing contribute to higher product quantity, quality, and cleanliness—attributes that are demanded by supermarkets.

### 5.5.2 Regression Results

The differences in labor use between supermarket and traditional channel farmers are interesting, but they cannot be interpreted as net effects of supermarkets because of possible confounding factors. To establish net effects of supermarket participation, we estimated a so-called double-hurdle model of hired labor demand. In the first hurdle, the probability of hiring labor was estimated, followed by the second hurdle that modeled the intensity of labor use conditional on the probability of hiring labor. Supermarket participation was included in both hurdles as explanatory variable, in addition to a vector of other factors that may influence labor demand.

**Table 5.9** Unconditional marginal effects of supermarket participation on labor demand

	Predicted demand for labor in traditional channels (labor days/plot)	Average effect of supermarket participation (labor days/plot)	% increase
Total hired labor	10	6.146* (3.398)	61
Female hired labor	6	7.238* (4.119)	121
Male hired labor	5	0.639 (1.311)	13

\*Significant at the 10% level. Standard errors are shown in parentheses

We used an instrumental variable control function approach to test and control for selection bias. Details of the estimation results are shown and discussed in Rao and Qaim (2013). Table 5.9 summarizes the results in terms of supermarket impacts.

Supermarket participation increases the demand for total hired labor by 6 labor days per vegetable plot. Compared to the demand for total hired labor, this implies an increase of 61%. Consistent with our descriptive analysis, increase in the demand for female hired labor is even bigger; reaching 121% (approximately 7 labor days increase). These results are based on one vegetable cropping cycle that takes approximately 6 months, implying a 14 labor-day increase annually. Using the mean wage rate for female laborers, this is equivalent to an increase of almost 2000 Ksh. Iiyama et al. (2008) estimated that the average rural labor household in Kenya derives around 26,600 Ksh per year from off-farm employment. Therefore, the estimated increase in wage income attributable to supermarkets would amount to a 7.5% increase in off-farm income for rural labor households. The unconditional effect for male labor demand is insignificant. This underlines that the supermarket expansion provides new agricultural employment opportunities in the Kenyan vegetable sector especially for women.

## 5.6 Conclusion

The role of supermarkets in food retailing is rapidly growing in Kenya and many other developing countries. In the early stages of growth, supermarkets primarily concentrate on selling processed foods, but over time they also start dealing with fresh products, including fruits and vegetables. This requires new procurement systems, because the high product quality and consistency that is increasingly demanded by middle and upper income consumers cannot be guaranteed through traditional supply chains. Supermarkets often contract preferred suppliers and traders, specifying standards and modes of delivery.

In this study, we have analyzed the welfare effects of the expansion of supermarkets for rural households in Kenya. Using data from a household survey of vegetable farmers we found that participation in supermarket channels increases household income by 48% on average. The analysis further shows that poorer households with smaller farm sizes benefit overproportionally. We also find a significant reduction in poverty rates among vegetable farmers that supply supermarkets. The

significant income gains can be explained by increases in vegetable productivity. Higher technical requirements in supermarket channels, as well as higher prices received, provide new incentives for technology adoption and intensified production. On average, supermarket participation leads to a 46% improvement in productivity among vegetable farmers. We also find a significant gain in technical efficiency, which is likely related to better access to information in supermarket channels. Finally, supermarket participation is associated with higher market assurance and price stability, reducing marketing risk and allowing further gains from specialization. Our results suggest that supermarket participation improves scale efficiency by 23 percentage points.

However, not all farmers have equal access to these emerging supply chains. Our analysis has shown that better educated farmers and households with more assets are more likely to be involved in supermarket channels. Moreover, infrastructure and access to transportation and credit are factors that facilitate participation significantly. In other words, disadvantaged farmers operating under less favorable infrastructure and institutional conditions face constraints in supplying vegetables to supermarkets. Such bottlenecks should be reduced through appropriate support, in order to avoid undesirable social outcomes. In the study region in Kenya, there is an NGO that promotes collective action among farmers, provides training on production techniques and special supermarket requirements, and offers other institutional support. These targeted activities reduce transaction costs and contribute to making smallholder farmers more reliable trading partners for supermarkets. Regression analysis has confirmed that farmers who obtain this NGO support are much more likely to participate in supermarket channels. Hence, such efforts should be scaled up to reach a larger number of farmers and achieve larger geographical coverage. This may involve new incentives for private activities or also public interventions. In some cases, public–private partnerships could also prove successful in terms of better linking farmers to high-value markets. For instance, the public sector may provide the physical infrastructure that supports extension and market linkage services offered by private agents.

The last part of our analysis suggests that rural households can even benefit from the supermarket expansion when they do not enter modern channels as suppliers, namely through the labor market. Producing vegetables for supermarkets causes higher demand for agricultural labor, thus providing employment opportunities for other rural households. Farmer participation in supermarket channels increases the demand for hired labor by 61%. Since agricultural wage employment is often more important for the lower-income segments, the rural poor may benefit overproportionally. Positive employment effects are especially pronounced for female laborers. Participation in supermarket channels increases farmers' demand for female hired labor by 121%. This is a welcome finding from a gender equity perspective. Women's access to paid employment tends to increase their economic independence and control over income. Hence, when assessing rural development effects of supermarket growth, it is not enough to focus only on the impacts on farmers that directly participate in supermarket channels. Labor market effects must also be considered.

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# Chapter 6

## The New Supply Chains in Malaysia: Implications to the Fruits and Vegetables Producers

**Fatimah Mohamed Arshad**

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### 6.1 Introduction

The agricultural produce and food marketing in Malaysia are moving in tandem, albeit at a slower rate, with the structural changes that have taken place in the retail sector. Since 1980s, food retailing in the developed world has been characterized by the rapid development of large retail chains that integrate the wholesale function into their own company to become self-distributing chains. Due to big-scale operation, these retail chains have been able to introduce cost-saving innovations such as centralization of procurement, use of preferred supplier registries, formal contracts with suppliers and the promulgation of private quality standards. The saturation of consumer markets in the European Union (EU) and the growth of consumers' disposable income in the developing economies have driven some of these retail chains to those areas including Malaysia. By mid and late 1990s, accelerated by globalization and enabled by information technology, a number of multinational retail chains have opened up hypermarkets in Malaysia.

The rise of highly consolidated and concentrated retail chains in some parts of the world has been shown to change the market structure, competition, buyer-supplier relationship, price levels to consumers and producers, marketing efficiency, product growth and innovations. Some of the observed impact of the rise of con-

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solidated retail chains in developing economies include: marginalization of small market intermediaries and farmers, lower prices both to farmers and producers and the introduction of market innovations such as new services, products and retailing technology (Reardon et al. 2003; FAO 2004). Despite their late entry into the retail sector, the new store-based retailers accounted for as much as 60% of fruit sales and 35% of vegetable sales in Malaysia in 2002 (FAO 2005).

There are evidences to show that small farmers are not able to meet the strict quality requirement of these retail chains. For instance, Giant in Malaysia had 200 vegetable suppliers in 2001, but by 2003 the number was reduced to 30 (Shepherd 2004). In Thailand, the number of vegetable suppliers to Tops Supermarket (Ahold chain) fell from 250 to 60. In regard to this development, this chapter examines the impact of the new supply chains on the fresh fruits and vegetables (FFVs) sector in Malaysia, particularly on the small producers.

The chapter is organized as follows. The following section explains the major differences of the new agri-food supply chain in comparison to the conventional marketing system. This is followed by a discussion on the growth of hypermarkets in Malaysia and its structural implications to the FFVs industry in Malaysia, in particular the small farmers. The chapter concludes with some policy implications.

## 6.2 Conventional Marketing System

The marketing system of a produce is determined by factors such as scale of market participants, product characteristics, grade and standardization and market information. In Malaysia, the marketing system of FFVs is largely influenced by the supply sector where it is characterized by a large number of small and uncommercialized farms. For instance, there were 270,000 growers working on 257,000 ha of land planted with fruits in 1998 (Mohamed Arshad et al. 2005). Out of this total hectareage, only 86,000 ha or 33.4% are considered commercial farms and the average farm size is 0.67 ha. Agricultural produce are generally unstable in production and inconsistent in quality and quantity. With the exception of this small percentage of commercialized farms, majority of small farmers are dependent on the wholesalers for financial loans and agricultural inputs to sustain their livelihood, which leads to a strong unidirectional symbiotic relationship between the producers and their buyers.

The marketing sector on the other hand is not conducive to efficient distribution due to a number of infrastructural constraints such as poor logistics which include storage, cold rooms, transportation and warehousing (Abbot 1987; Kaynak 1986). The market signals are hampered with inaccurate and untimely information to market participants particularly to the isolated producers. Price discovery mechanism is flawed with inefficiencies where prices are negotiated based on market power of certain group of traders rather than driven by market fundamentals. In the case of fish, prices at the landing centres are discovered through “whispering system” between the fishermen and traders and there is no free flow of information among

the market participants (Hussein et al. 1986; Omar 1994). In the case of FFVs, the consignment system is widely practiced by the producers to market their produce. Under such a system, price discovery is in the hands of wholesalers who pay the producers about 2–3 weeks after the produce has been sold to the next buyers (retailers or other wholesalers).

Many literature and previous studies indicate that the focal point of the traditional market system is the wholesale sector as this is where the price discovery function is performed (Boehlje 1999). This sector is characterized by a relatively small number of wholesalers who account for a large percentage of the market share. Their oligopolistic power and extensive network both with the suppliers and consumers enable them to perform this function. With the prevalence of structural defects in the system, the efficiency of the price discovery made by the wholesalers is highly questionable. Evidences of temporal and spatial price inefficiencies are profound in the literature to support this allegation.

Under such a marketing landscape, there are minimal incentives for the industry to grade, standardize or even to innovate value-added products. Products are sold in bulk and undifferentiated which make market prices meaningless at times as they do not reflect the quality and specifications. Postharvest losses ranges from 10 to 40% due to poor handling and most importantly little incentives or no premium are provided by the market for high-quality produce. With minimal marketing strategies employed (particularly product development and promotion), the focus of the traditional system is on the distributive function across the chains. Besides, the conventional chains are loose, fragmented and unstable and over time duplicative in functions. Most of the agricultural produce go through a multilayered middlemen before it reaches the consumers. For instance, in the case of vegetables, the produce has to go through assemblers or transporters who normally work for wholesalers in the local market. The wholesalers in the local market in turn transport the produce to wholesalers in the terminal market. At the terminal market, produce is sold to either retailers or small-time wholesalers. In other words, the produce is handled by four or more middlemen before it reaches the consumers. The marketing cost of such a system has been shown to be high, in terms of high incidence of postharvest losses, the cost of which is borne by the consumers.

### 6.3 The New Agri-Food Supply Chain

The rapid change in the retail sector is reflected in the growth of its economic importance. The value of retail trade in the country has increased in terms of value from RM26.8 billion to RM33.1 billion between 2000 and 2005 and reached RM107 billion in 2011 (Euromonitor 2012). This industry provided employment to 272,600 workers in 2006, which has increased up to 342,700 by 2011 and represent about 2.7 and 3%, respectively of the total workforce in the country during the said period.



The major differences between the traditional agricultural marketing system and the new supply chain are depicted in Fig. 6.1. The major characteristics of the new

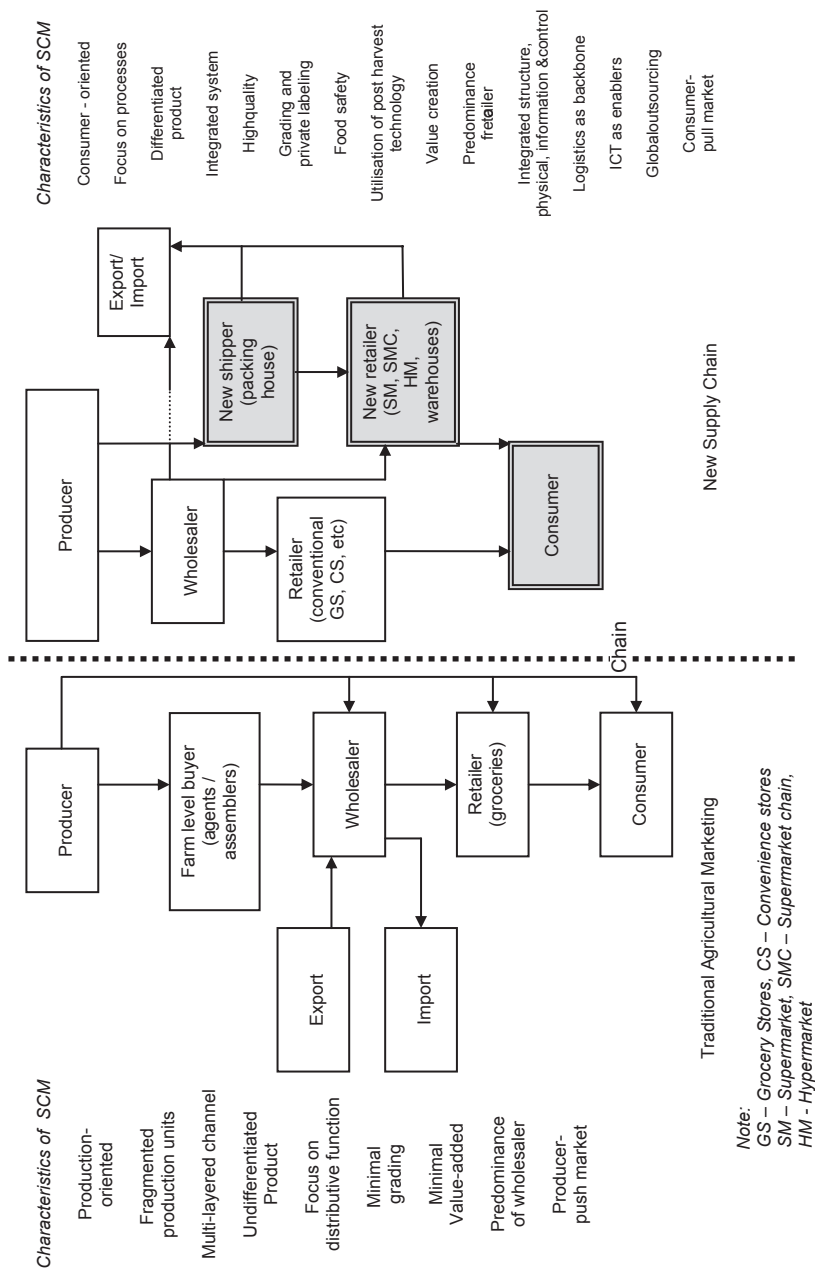
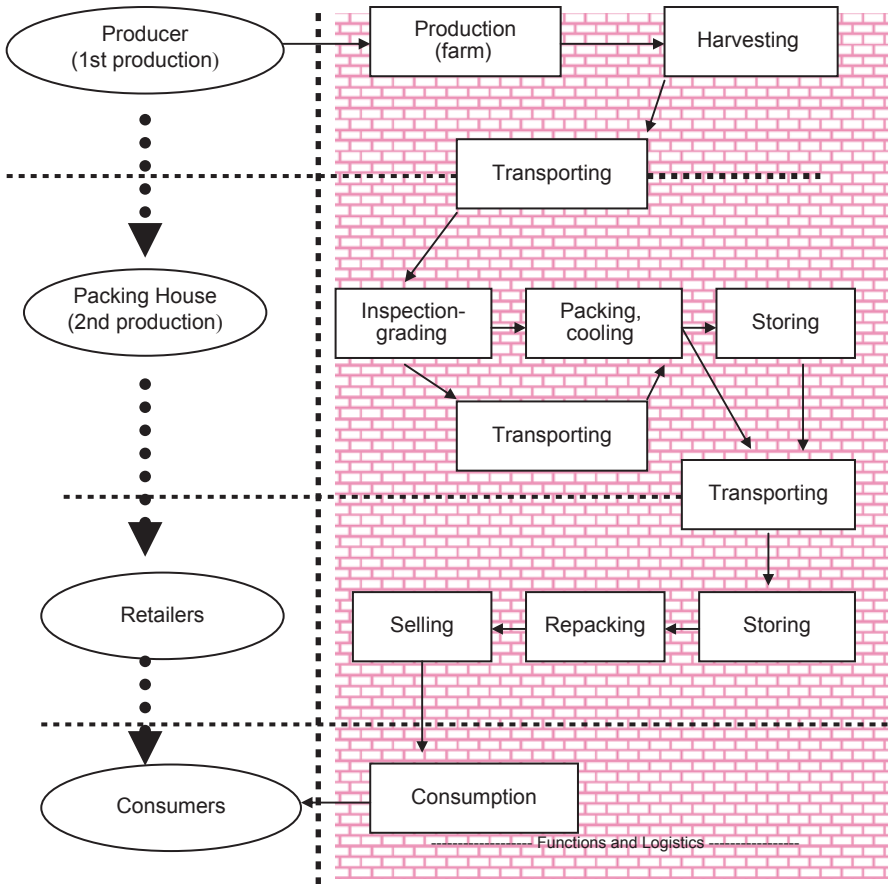


Fig. 6.1 Comparison of traditional agricultural marketing and the new supply chain



**Fig. 6.2** The new supply chain and the role of technology in business processes. (Adapted from: Kim (2005))

supply chain are summarized as follow<sup>1</sup>.

- The new supply chain focuses on processes rather than the economic agents as in the traditional marketing paradigm.
- The focal intermediaries are the retailers as compared to the wholesalers in the conventional marketing system.
- The production–marketing network is closely knit and based on value-chains.
- The marketing channels are short, with well-defined functions.
- Production and processes are driven by technology to customize products (Fig. 6.2).
- Private labelling for food safety.
- Logistics are the backbone of the new supply chain.

<sup>1</sup> For details, refer Mohamed Arshad et al. (2006).

- Processing is the basis of value-added creation.
- Procurement could be both from local or outsourced from the global market wherever cheaper and better quality.
- The products under the new supply chain are highly differentiated, tailored to the needs and preferences of customers.
- Market information is transparent, and dissemination is efficient.
- Information and communications technologies (ICT) is the enabler of business processes of the new supply chain.
- The competition is between chains.

The above discussion indicates the distinct features of the new structure of supply chain for agri-food in comparison to the conventional system. Clearly, there are distinct differences in terms of production orientation, buying and selling practices, product development, pricing, processing, logistics, ICT application and market information.

## 6.4 Structural Perspectives

### 6.4.1 *The Rapid Growth of Store-Based Retailers, Particularly the Hypermarkets*

The predominance of the large retail chains in the past few years is depicted in Table 6.1. As shown, the number of grocery stores or provision shops has reduced

**Table 6.1** Distribution of retail stores by types and revenues, 2001. (Source: Department of Statistics, Malaysia (2003))

Type	1993	2001	Change 1993–2001 (%)	Share as at 2001	Revenue as at 2001	
	Number	Number		(%)	(RM mn)	%
<i>Provision/grocery stores</i>	55869	44990	-19.5	55.7	6926	28.7
<i>Large retail chains</i>	2123	4946	133.0	6.1	13,283	55.0
Supermarket	349	588	68.5	0.7	3297	13.7
Mini-market	1535	3632	136.6	4.5	1816	7.5
Convenience stores	116	219	88.8	0.3	201	0.8
Department stores	43	302	602.3	0.4	1778	7.4
Supermarket and hypermarket	80	205	156.3	0.3	6190	25.6
Specialized food stores	0	30,845	—	38.2	3931	16.3
Total	57,992	80,781	39.3	100.0	24,140	100.0

**Table 6.2** Sales in retailing by category, 2006–2011 (RM mn). (Source: Euromonitor (2012))

Category	2006	2007	2008	2009	2010	2011
Store-based retailing	81,830.8	87,354.7	91,748.0	93,474.3	96,369.2	99,023.2
Non-store retailing	5999.8	6396.6	6809.9	7182.3	7572.2	8007.4
Retailing	87,830.5	93,751.3	98,557.9	100,656.5	103,941.4	107,030.6

**Table 6.3** Sales in retailing by grocery and non-grocery 2006–2011 (%). (Source: Euromonitor (2012))

Category	2006	2007	2008	2009	2010	2011
Grocery	49.8	49.5	49	49	49.5	49.5
Non-grocery	50.2	50.5	51	51	50.5	50.5
Total	100	100	100	100	100	100

**Table 6.4** Sales in store-based retailing by category 2006–2012 (%). (Source: Euromonitor (2012))

Category	2006	2007	2008	2009	2010	2011
Grocery retailers	32.5	31.9	32.6	33.3	33.3	33.8
Non-grocery retailers	67.5	68.1	67.4	66.7	66.7	66.2
Store-based retailing	100	100	100	100	100	100

by 19.5% from 55,869 in 1993 to 44,990 in 2001<sup>2</sup>. The large retail chains are growing in strength, indicating a change of 69.5% between the stated periods from 2123 to 4946. Almost all the new types of retail chains (supermarkets, department stores and convenience stores) are experiencing significant growth.

The provision of grocery shops accounted for 55.7% of the total stores in the country. However, in terms of revenue, they only accounted for 28.7% compared to the large retail chains which accounted for almost two thirds of the revenue. Among the retail chains, the supermarkets (including hypermarkets) which accounted less than 1% of the retail stores, accounted for almost one quarter of the revenue.

Data by Euromonitor indicate that the sales value of retailing sector has increased 29% from RM87 billion in 2006 to RM107 billion in 2011 (Table 6.2). The share of store-based retailing remained very high during the said period at 93%. Grocery sales accounted for about a half of the total retail sales between 2006 and 2011, while the rest were non-groceries (Table 6.3). Among the store-based retailers, sales of the grocery retailers accounted for about one third between 2006 and 2011 compared to two thirds of that of the non-grocery retailers (Table 6.4). Fresh produce

<sup>2</sup> Recent data on the distribution of the retail stores are unavailable.

**Table 6.5** Sales in grocery retailers by category, 2006–2011 (RM mn). (Source: Euromonitor (2012))

Category	2006	2007	2008	2009	2010	2011
<i>Modern grocery retailers</i>	9401.0	10,805.2	13,088.8	14,302.5	15,687.2	17,185.9
Convenience stores	698.8	983.8	1199.3	1324.0	1473.6	1591.5
Discounters	–	–	–	–	–	–
Forecourt retailers	754.9	844.4	954.2	1047.7	1100.1	1144.1
Hypermarkets	5931.7	6880.8	8566.5	9431.8	10,457.0	11,634.5
Supermarkets	2015.6	2096.3	2368.8	2499.1	2656.5	2815.9
<i>Traditional grocery retailers</i>	17,211.5	17,063.4	16,828.4	16,781.6	16,410.6	16,277.0
Food/drink/tobacco specialists	1257.4	1320.3	1359.9	1421.1	1449.5	1471.3
Independent small grocers	15,513.3	15,358.2	15,127.8	15,052.2	14,675.9	14,529.1
Other grocery retailers	440.8	384.9	340.7	308.3	285.2	276.6
<i>Grocery retailers</i>	26,612.5	27,868.6	29,917.2	31,084.1	32,097.8	33,462.9

accounted for an average of 8% of the grocery sales between 2006 and 2011, while the share of packaged food was around 16%.

Table 6.5 provides the trends in sales (in value and percentage) of store-based retailing between 2006 and 2011. The data show that in terms of sales, the share grocery retailers increases from RM26.6 million in 2006 to RM33.4 million in 2011 or from 35% to more than half during the said period. Within the grocery retailers' category, the share of hypermarkets has increased significantly from 22.3 to 32.6%, whereas the share of the traditional grocery retailers has declined from about two thirds to half with significant decline among independent small grocers.

The above data show the growing importance of store-based retailers, particularly the hypermarkets and supermarkets. In fact, the advent of multinational companies in the local retail scene is indeed a major event that has changed the retail landscape in Malaysia. The first supermarket and shopping complex were opened in 1964 and 1973, respectively in Kuala Lumpur (Saimin 2004). However, the advent of multinational companies in the local retail sector started in 1989 when Jaya Jusco supermarket was opened in Kuala Lumpur. Jaya Jusco is owned by a Japanese company named AEON Co. Ltd. This move was made as a part of the "Look East" policy in the 1980s aiming to encourage investors from the Far East to Malaysia. The growth of foreign-owned supermarket/hypermarket in the 1980s has been slow until it picked up again in the mid-1990s (Table 6.6). In 2007, the major foreign-owned retail chain companies in Malaysia were Tesco (owned by a British company), Carrefour (French), Giant (Hong Kong) and Jaya Jusco (Japanese). According to KPDNHEP,<sup>3</sup> in 2008, there were 153 foreign-owned retail stores operating in

<sup>3</sup> KPDNHEP is *Kementerian Perdagangan Dalam Negeri dan Hal Ehwal Pengguna* or Ministry of Domestic Trade and Consumer Affairs.

**Table 6.6** Development of foreign retail chains in Malaysia, 1980–2009<sup>a</sup>. (Source: Ministry of Domestic Trade and Consumer Affairs (KPDNHEP) (2008))

Year	Tesco		Carrefour		Jusco		Giant		All		
	Num-ber	Cum. total	Num-ber	Cum. total	Num-ber	Cum. total	Num-ber	Cum. total	Num-ber	Cum. total	Cum. %
1980	–	–	–	–	–	–	1	1	2	2	0.7
1981	–	–	–	–	–	–	0	1	0	2	0.7
1982	–	–	–	–	–	–	0	1	0	2	0.7
1983	–	–	–	–	–	–	0	1	0	2	0.7
1984	–	–	–	–	–	–	0	1	0	2	0.7
1985	–	–	–	–	–	–	1	2	1	3	1.3
1986	–	–	–	–	–	–	0	2	0	3	1.3
1987	–	–	–	–	–	–	1	3	1	4	2.0
1988	–	–	–	–	–	–	0	3	0	4	2.0
1989	–	–	–	–	1	1	0	3	1	5	2.7
1990	–	–	–	–	0	1	0	3	0	5	2.7
1991	–	–	–	–	1	2	0	3	1	6	3.3
1992	–	–	–	–	1	3	1	4	2	8	4.7
1993	–	–	–	–	0	3	0	4	0	8	4.7
1994	–	–	1	1	0	3	0	4	1	9	5.3
1995	–	–	0	1	2	5	1	5	3	12	7.3
1996	–	–	1	2	0	5	0	5	1	13	8.0
1997	–	–	1	3	1	6	0	5	2	15	9.3
1998	–	–	2	5	0	6	2	7	4	19	12.0
1999	–	–	1	6	1	7	0	7	2	21	13.3
2000	–	–	0	6	1	8	4	11	5	26	16.7
2001	–	–	0	6	0	8	6	17	6	32	20.7
2002	3	3	0	6	1	9	3	20	7	39	25.3
2003	2	5	1	7	1	10	32	52	36	75	49.3
2004	1	6	1	8	1	11	7	59	10	85	56.0
2005	4	10	1	9	3	14	12	71	20	105	69.3
2006	1	11	2	11	5	19	16	87	24	129	85.3
2007	4	15	3	14	1	21	6	93	15	144	94.7
2008	–	–	5	19	2	23	–	–	7	149	99.3
2009	–	–	1	20	–	–	–	–	1	150	100.0
Total	15	–	20	–	22	–	93	–	150 <sup>b</sup>	–	–

<sup>a</sup> Data as of February 2008<sup>b</sup> Total number of foreign-owned retail chains reported by KPDNHEP was 154. However, four Jaya Jusco retail stores did not provide date of operation (hence they are excluded)

the country. The average annual rate of growth of these retail chains, between 1992 and 2007, was estimated at 23.6%. However, by the early twenty-first century, the figure was much higher, that is, about 65.3% per year. This was largely due to the taking over of Giant and Cold Storage by the Dairy Farms Co. in 2002. By 2003, the cumulative total of foreign-owned retail stores reached almost half of the expected

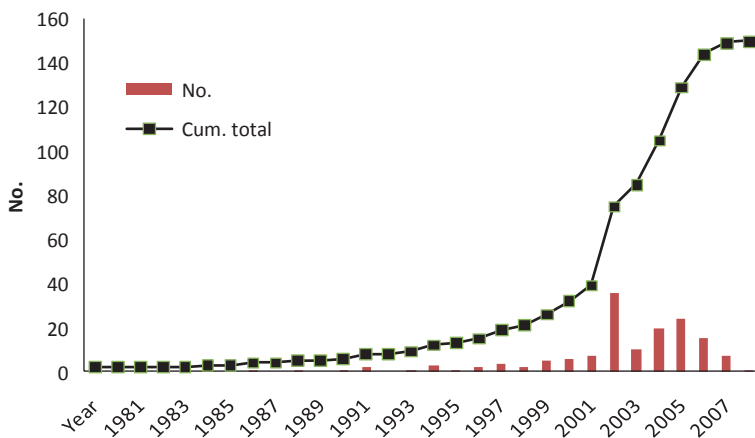


Fig. 6.3 Number and cumulative total of hypermarkets in Malaysia, 1994–2009

total in 2009. The local supermarkets include The Store, Xtra Supercentre, Billion, Parkson, Econsave and Mydin.

In terms of capital ownership, Giant's retail chains are 100% owned by a Hong Kong-based company (Companies Commission of Malaysia 2007). Local participation is the highest in the Jaya Jusco retail chains, where the local equity share was reported to be at 48.3%, TESCO (30%) and Carrefour (22.9%). In 2007, about 39% or 59 of the large-scale retailers were multinational companies. The growth of these companies in terms of number was rapid after 2002 (Fig. 6.3). This was largely due to favourable policies from the government's part in promoting distributive trade in the country.

The total area of floor space of these multinational retail stores is estimated at 956,851 (m<sup>2</sup>) (Table 6.7). In terms of units, there are 93 Giant stores in Malaysia which accounted for 60.8% of the total compared to 16.3, 13.1 and 9.8% for Jaya Jusco, Carrefour and Tesco, respectively. However, in terms of space, Jaya Jusco accounted the highest, that is a little more than one third of the total. Among the four retailers, the average floor areas for Jaya Jusco is the highest at 13,136 (m<sup>2</sup>).

Table 6.7 Malaysia: Multinational retail stores by unit and floor areas, 2008. (Source: Ministry of Domestic Trade and Consumer Affairs (2008))

Retail store	Number	%	Floor areas (m <sup>2</sup> )	%	Average (m <sup>2</sup> )
Tesco	15	9.8	133,000	13.9	8867
Carrefour	20	13.1	182,600	19.1	9130
Jusco	25	16.3	329,076	34.4	13,163
Giant	93	60.8	312,175	32.6	3357
Total	153	100.0	956,851	100.0	6254

**Table 6.8** Number of retailers and floor areas (m<sup>2</sup>) by States, 2006. (Source: Ministry of Domestic Trade and Consumer Affairs (2008))

State	Number of retailers	%	Floor areas (m <sup>2</sup> )	%
Selangor	57	37.3	379,965.5	39.7
Melaka	5	3.3	44,190.4	4.6
Kedah	4	2.6	18,638.0	1.9
Pulau Pinang	11	7.2	88,050.5	9.2
Perak	6	3.9	64,688.6	6.8
Kuala Lumpur	24	15.7	142,280.0	14.9
Johor	19	12.4	113,285.5	11.8
Negeri Sembilan	9	5.9	51,971.0	5.4
Putrajaya	1	0.7	8100.0	0.8
Sabah	12	7.8	36,424.0	3.8
Labuan	1	0.7	897.0	0.1
Pahang	1	0.7	5328.0	0.6
Sarawak	3	2.0	3032.0	0.3
Total	153	100	956,850.5	100

The distribution of store-based retailers is concentrated in the highly urbanized areas and states such as Kuala Lumpur and Selangor, respectively, and other states such as Johor and Pulau Pinang (Table 6.8).

A total of 57 stores or 37.3% of the multinational retail chains as of February 2008 was hypermarkets (Table 6.9). About 35.3% were supermarkets and 17% were departmental stores. Carrefour specializes in hypermarkets, whereas Tesco has 13 hypermarkets and one superstore and one departmental store. Giant appears to be diversified in its retail activities. A total 58% of its stores are supermarkets, one quarter hypermarkets and the rest are superstores and departmental stores.

**Table 6.9** Malaysia: Number of multinational retail chains, as on February 2008. (Source: Ministry of Domestic Trade and Consumer Affairs (2008))

Type	All		Tesco		Carrefour		Giant		Jusco	
	Number	%	Number	%	Number	%	Number	%	Number	%
Hypermarket	57	37.3	13	86.7	20	100	24	25.8	–	–
Supermarket	54	35.3	–	–	–	–	54	58.1	–	–
Superstore	15	9.8	1	6.7	–	–	14	15.1	–	–
Fresh food distribution centre	1	0.7	–	0.0	–	–	–	–	–	–
Departmental store	26	17.0	1	6.7	–	–	1	1.1	26	100
Total	153	100	15	100	20	100	93	100	26	100



### 6.4.2 Growing Concentration of the Store-Based Retailers

Even at the global level, there exists some degree of market concentration in the agri-food supply and retail chains. According to the Department for International Development (DFID) (2004), Wal Mart was the world's largest grocer and the top 30 companies account for around one third of global grocery sales in 2003 (DFID 2004 and PECC 2006). The share of top five retailers in some of the developed economies is more than 40%. It is reported that in Germany, the UK and France, the supermarket shares of food retail are at 70–80%.

In the developing economies, the same trend is observed, whereas in rapidly growing economies such as Thailand, the concentration ratio (CR) is relatively higher than other countries such as Indonesia and Vietnam. There are a number of estimates for concentration of food market in Malaysia. For instance, PECC (2006) and Hu (2005) estimated that the top five retailers accounted for 25% of the food market in Malaysia. Ngah (2005) estimated that the share of supermarkets and hypermarkets in the national food retail has increased from 27% in 1999 to 31% in 2001. The two major global retail chains, namely Tesco and Carrefour accounted for 46% of the hypermarkets and retail markets (Euromonitor 2005). The hypermarkets have also been able to secure consumers' demand with 31% of urban Malaysian shoppers perceived that these two outlets as their main shopping destination.

The two popular indices used to measure market concentration are CR and the Herfindahl–Hirschman Index (HHI)<sup>4</sup>. As explained earlier, CRs measure the percentage of market share owned by the  $n$  largest firms in the industry. The HHI is a commonly accepted measure of market concentration. The HHI takes into account the relative size and distribution of the firms in a market and approaches zero when a market consists of a large number of firms of relatively equal size. The HHI increases both as the number of firms in the market decreases and as the disparity in size between those firms increases.

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<sup>4</sup> Market Concentration Ratios (CR) measures the percentage of market share owned by the  $n$  largest firms in the industry (Bain, 1968). The CR can be expressed as:

$$CR_n = X_1 + X_2 + \dots + X_n,$$

where  $X_i$  is the market share of the  $i$ th firm.

The HHI developed by Herfindahl (1950) and Hirshman (1945) is defined as the sum of the squares of the market shares of each individual firm which is expressed as:

$$HHI = \sum_i^n X_i^2,$$

where  $X_i$  is the market share of the  $i$ th firm and  $n$  is the number of firms in the industry.

**Table 6.10** Grocery retailers brand shares, 2008–2011 (%)

Brand	Company	2008	2009	2010	2011
Giant	GCH retail (M) Sdn Bhd	11.1	11.6	12.1	12.9
Tesco	Tesco stores (Malaysia) Sdn Bhd	8.5	9.0	9.3	10.0
Carrefour	Carrefour magnificent diagraph Sdn Bhd	5.3	5.2	5.4	5.3
Giant superstore	GCH Retail (M) Sdn Bhd	2.3	3.3	4.4	5.0
Eonsave	Eonsave Cash & Carry Sdn Bhd	3.3	3.5	3.8	4.3
7-Eleven	7-Eleven Malaysia Sdn Bhd	3.7	3.8	4.0	4.1
Tesco extra	Tesco stores (Malaysia) Sdn Bhd	2.1	2.1	2.1	2.0
Kedai Mesra	Petronas dagangan Bhd	1.3	1.4	1.4	1.4
My Mydin	Mydin Mohamed Holdings Bhd	0.2	0.3	0.5	0.9
Esso	Esso Malaysia Bhd	0.2	0.5	0.7	0.8
Cold storage	GCH Retail (M) Sdn Bhd	0.7	0.6	0.6	0.6
Pacific	Store Corp Bhd, The	0.6	0.5	0.5	0.5
Shell select	Shell Malaysia Ltd	0.4	0.4	0.5	0.5
99 Speedmart	99 Speedmart Sdn Bhd	0.2	0.3	0.4	0.4
Sulwah	Sulwah Corp Bhd	0.4	0.4	0.4	0.4
Star mart	Chevron Malaysia Ltd	0.4	0.5	0.5	0.4
BHP	Boustead Petroleum Marketing Sdn Bhd	0.3	0.3	0.3	0.3
Ayamas	Ayamas Food Corp Sdn Bhd	0.1	0.1	0.2	0.2
Billion	Billion Shopping Centre Sdn Bhd	0.2	0.2	0.2	0.2
KK Super mart	KK Supermart holdings Sdn Bhd	0.1	0.1	0.1	0.2
Mobil	Ecco Malaysia Bhd	0.3	0.2	–	–
Others		58.3	55.7	52.6	49.7
Total		100.0	100.0	100.0	100.0
CR4		27.2	29.1	31.2	33.2
CR8		37.6	39.9	42.5	45.0
HHI		3660.1	3390.8	3087.3	2833.9

Table 6.10 provides the share of grocery brands among the store-based groceries. The top four brands are Giants, Tesco, Carrefour and Giant Superstore. The CR4 value has increased from 27.2% in 2006 to 33.2% indicating a growing concentration in the industry. Similarly, the HHI indices suggest values of more than 2,500 which indicates a highly concentrated retail sector.

### 6.4.3 Barriers to Entry Are High, Displacing Small Retailers

Barriers to entry is generally defined as the obstacles in the path of a firm that wants to enter a given market (Bain 1968) or all the factors that deter or hinder new competitors to enter a specific market. Based on the above discussion, it is clear that

**Table 6.11** Multinational retail chains in Malaysia, 2008 (Source: Companies Commission of Malaysia (2007))

Firm	Year established	Capital ownership		Nationality	Capital paid (RM million)
		Foreign	Local		
		Foreign	Local		
Jaya Jusco	2004	51.7	48.3	Japan	175.5
Giant	1994	100.0	0.0	Hong Kong	491.3
TESCO	2000	70.0	30.0	UK	56
Carrefour	1992	77.1	22.9	France	505.7

the market for groceries is moving towards greater concentration which is made possible by the “high barriers to entry” to both the present and potential small-scale retailers (such as independent groceries). As indicated in Table 6.11, the capital requirement of large-scale retailers is very high beyond the capacity of small-time retailers. The paid-up capital for Carrefour is RM505 billion, Giant (RM491 billion), Jaya Jusco (RM175 billion). The largest local grocery store, that is the Store has a paid-up capital of RM30 million. Large amount of capital is required to run a large-scale business to achieve some economies of scale in their operations. Clearly, capital is the major deterrent to new entrants of this industry.

Besides the high requirement of capital, the other forms of barriers to entry are management expertise, efficient logistics and state-of-the-art technology used in every level of supply chain practices. The new supply chain is considered as a new “retailing revolution” where new management and marketing concepts and ideas are translated to create an efficient delivery system that satisfy the stakeholders (producers, intermediaries and consumers). This is achieved through an efficient procurement system supported by modern logistics and technologies such as ICT and biotechnology. ICT is being used for communication, as well as inventory management and customer relationship management (CRM). Biotechnology is being applied to ensure quality product and produce for the consumers.

The marketing strategies of the new retail chain practices are barriers to entry to potential entrants. The new retailers operate on large scale that gives them the advantage of economies of scale. Equipped with modern technology (such as ICT and biotechnology), their logistical arrangement is advanced and efficient. Besides these advantages, they practice consumer-centric policies and strategies. Besides competitive prices, they compete on non-pricing strategies such as favourable shopping environment, high-quality produce, a large variety of vegetables and fruits, labelling and branding, facilities to consumers and efficient transaction and a comprehensive package of CRM. With large capital and global network, these retailers are able to outsource supplies from cheaper sources to the international market. The organizational characteristics of these chains as well as their consumer-driven strategies create high barriers to entry for new entrants into the industry. As proven in other developing economies, the growing strength of these retail chains has not only marginalized small-time retailers, but also deters new entrants into the industry.

#### ***6.4.4 Growth of New Intermediaries: The Packers and Multifunctional Wholesalers***

The grocery retail sector is growing actively at the expense of small-scale retailers. Besides, the procurement system of these large retail chains tends to marginalize small and inefficient small producers who are not able to meet the quantity and strict quality demand. A new type of intermediary which is becoming important in the new supply chain is the “packers” who are basically performing a similar role like that of wholesalers with a special focus on packaging. Some large retailers are in the process of building up distribution centres, closer to the farms, to collect and repack the produce before they are displayed in the stores. Many chains are shifting from traditional wholesale markets to “dedicated wholesalers”, who are regarded as more responsive to quality, safety, and consistency requirements than traditional wholesalers, who aggregate produce from many producers and may also be unable to supply the quantities required. The wholesalers seem to benefit from the new supply chain as they are in a better position to meet the supply requirements of the large retailers. Operating in a relatively large scale of business, the wholesalers are able to mobilize their transportation facilities and their packaging or packing centres to collect and repack the produce in accordance to the specifications made by the retailers.

A study carried out by Man et al. (2008) indicates that a little less than two thirds of the sampled wholesalers have more than one business functions. The respondents reported to perform a number of combinations of functions such as transportation, packaging, cold storage besides their main core business of wholesaling, importing and exporting. As shown in Table 6.12, a total of 22 wholesalers (18.8%) stated are involved in transportation activity, packaging (14.5%) and providing cold storage (13.7). These data suggest their multitasking marketing activities and the nature of involvement in the supply chain. The study estimated that about a quarter of the fresh produce supply of the hypermarkets came from the wholesalers. Hence, it is of no surprise that the wholesalers are involved in supply chain activities such as transportation, packing and storing.

#### ***6.4.5 The Growth of Contractual Farming***

Supermarket practices private standards that are similar to export requirements for size, colour, safety, consistency, volume, packaging, labels, etc., which imply the need for production level investments in drip irrigation, greenhouses, advanced storage, hygienic services and logistics (Daniele and Purcell 2008). In Thailand, this demand can only be met by professional operators—usually organized groups or larger farmers who could deal directly with the buyers. Contract farming or marketing is a viable option to achieve this. The Malaysian government through the Federal Agricultural Marketing Authority (FAMA) has encouraged and supported the contract farming activities among food producers by providing extension services, implementing accreditation schemes and functioning as the middlemen between the producers and buyers (including large scales and other types of buyers).

**Table 6.12** Multifunctional roles of fruits and vegetables wholesalers

Roles	Number	%
Wholesaling	42	35.9
Wholesaling and transportation	33	28.2
Wholesaling and others	5	4.3
Wholesaling, transportation, import and export	1	0.9
Wholesaling, transportation and packaging	3	2.6
Wholesaling, cold storage services, packaging and export	1	0.9
Wholesaling, transportation, cold storage services, packaging and export	1	0.9
Wholesaling, transportation, cold storage services, packaging, import and export	2	1.7
Wholesaling, transportation, cold storage services, packaging, import, export and others	2	1.7
Wholesaling, transportation and import	1	0.9
Wholesaling, transportation and cold storage services	5	4.3
Wholesaling and packaging	2	1.7
Wholesaling, transportation, packaging and export	2	1.7
Wholesaling and import	2	1.7
Wholesaling, packaging and export	3	2.6
Wholesaling, transportation and export	1	0.9
Wholesaling, import and others	4	3.4
Wholesaling, cold storage services, packaging and import	1	0.9
Wholesaling, cold storage services, import and export	1	0.9
Wholesaling and export	1	0.9
Wholesaling, transportation, cold storage services, and import	2	1.7
Wholesaling, transportation, cold storage services, import and export	2	1.7
Total	117	100

In 2009, a total of 3476 farmers were involved in contract farming. Being organized and supported by FAMA, it has carried a value of more than RM660 million. It operates contract marketing arrangements with fruit and vegetables, livestock, fresh-water fish, coconut and other producers. The main fruits considered suitable for such arrangements are watermelons, melons, mangoes and pineapples, while the main vegetables are chillies, pumpkin, ginger and lady's finger (okra) (FAMA 2010). To ensure that the farmers are in tune with the quality and safety demand of the chains, FAMA has implemented accreditation and extension programme. FAMA operates 41 collection centres, which funnel produce into seven distribution centres for delivery to the stores. About 63.2% of the produce was marketed by FAMA, while less than 2% received help from FAMA in terms of distribution arrangement and only less than 1% was able to market their product independently. Since this project is launched recently (under the Ninth Malaysia Plan's initiative, 2006–2010, (Malaysia 2006)), the producers rely on FAMA for channelling their produce until they are able to stand on their own, which is the ultimate aim of this project. As it is, the project involves some elements of subsidy in that infrastructure costs and some staff costs are borne by FAMA and not charged to the farmers.

Man et al. (2008) indicates that out of 41 contract farmers interviewed, a total of 34 farmers or 82.9% were involved in contract marketing and 31 of the contracts were done informally or verbally. A total of 56.1% has contract with FAMA, while the rest with wholesalers, collectors and hypermarkets. The contract farmers were largely young farmers, educated and aware of the advantages of contract farming. The farmers who were not involved in contract farming perceived that the contract incurred additional burden to them particularly the paper work. Almost half of the respondents mentioned lack of opportunities if they are involved in this project. However, most of the contract farmers mentioned the problem of delayed payments by the retail stores as their major problem (despite the Government recommendation that payments be made within 7 days). Despite the contract farming program initiated by FAMA, the number of FFVs producers that are directly involved in contract marketing with the large retailers remain small due to their inability to deliver the right quantity and quality at the right time and place (Man et al. 2008).

#### **6.4.6 *Absence of Major Structural Shift at the Farm Level***

Despite the retail revolution, there is no major structural shift at the farm-level marketing. It is of no surprise that only a small percentage of farmers were able to supply to the new retail format. Man et al. (2008) indicates that majority of the farmers studied sold their produce to wholesalers (64%), collectors/transporters (26%) and only 1% reported to sell their produce to hypermarkets. While the retailing of vegetables and fruits has modernized, the farm-level marketing has not shown a parallel progress. The slow structural shift can be inferred from the marketing margin trend.

In the developed economies, an improvement in the marketing system is reflected in the increase in the price spread or marketing margin as more value-added activities are created through branding, packaging and processing. As a result, the share of the producers from the consumer price is relatively small as processing and value added activities involve additional costs. However, in the case of Malaysian vegetables and fruits, the share of producers of the consumer ringgit is high (more 40% compared to less than 20% in the developed countries) and it has not changed much in the past 15 years (Arshad and Rahim 2008). This is a typical figure for a marketing system where there are limited value-added activities such as branding, packaging and processing. Although the marketing margin for these selected produce has increased, it is not large enough and at times unstable.

In the case of seasonal fruits such as *durian*, *duku langsat* and *rambutan*, the prices and margin continue to be unstable due to the inability of the system to absorb excess supply. All these symptoms show that there is no major structural shift in the agricultural marketing system at the farm level. In other words, the conventional method of selling through the multilayered intermediaries is still prevalent. With it, the old problems of inefficient price discovery and limited incentives for better handling of produce still prevail. It is of no surprise that the marketing margin of these commodities appears rigid with little improvement in terms of the farm share of the consumer price as well value added activities.

The correlation and causality analyses between FFV prices by Arshad and Rahim (2008) suggest that there exists some integration between selected vegetables and market centres. Generally, market for vegetables that are high in value and grown in commercialized farms tend to be correlated and integrated compared to vegetables that are relatively low in value and grown in low quantity in sparsely distributed areas. A high degree of market integration indicates efficient information flow between levels and centres or locations. The evidence of high correlations and integration between selected high value and commercialized vegetables suggest a strong network and relationships between the markets and their participants. On the other hand, the low correlation and integration of low-value and low-quantity vegetables imply that the markets are not communicating and prices are localized. Hence, prices of these commodities are not a good indicator of their market situation. In short, market improvements do occur but limited to commercialized fruits and vegetables.

## 6.5 Policy Implications

Malaysia has chosen to integrate with the world economy through trade. In fact, the gross domestic product (GDP) to trade ratio is 231 in 2005 compared to 431 for Singapore. Through trade, the services sector, particularly retail industry, has shown a remarkable growth in the past decade. One the major players of this sector is the large grocery retail chains both from local as well as multinational companies from countries such as the UK, Japan, Hong Kong and France. The advent of the new supply chain in the food marketing has been unprecedented as shown by the higher rates of growth in sales of food products and produce.

Despite the rapid growth of the food retailing in the country, the farm-level marketing, in general, does not seem to move in tandem, in fact the small farmers are in danger of being marginalized. The reason for this is rather obvious, that is, the FFVs sector in Malaysia is not progressing on all fronts such as productivity and value-added creation due to many institutional and structural constraints. The level of commercialization is still very low and hence, only a small percentage of farmers are able to participate in the new supply chain.

The new super retailers in the FFVs supply chain will continue to be an important institution affecting various aspects of marketing including pricing, distributing and all aspects of merchandising particularly branding, labelling, packaging and quality monitoring. To integrate the small farmers into the new supply chain requires a major revamp of the production and marketing system. It is clear that the current production system and technology is not able to produce fruits and vegetables according to what is required by the new retailers. Production improvement is not a short-term affair as it involves a total package of product development including research and development (R&D), extension services, institutional restructuring and most importantly adequate incentives to producers and traders. Attention also needs to be paid to legal and regulatory frameworks governing the FFVs sector.

The government can provide advice on contractual arrangements, set up arbitration schemes, develop quality certification, and establish laboratories and sampling procedures to meet safety concerns. The farm sector needs to be reorganized so that they are able to negotiate with the buyers on a level playing field. This involves the setting up of group farming as well as producer cooperatives. These are not new ideas; however, the full potential of these institutions is yet to be realized as structural and management problems pose as the major hindrances. As proven in the developed world as well as in countries like Taiwan, Thailand and Korea, producer cooperatives are the best vehicle for farmers to negotiate on equal terms with large buyers such as hypermarkets. There is a dire need to revive these institutions to help farmers to reorganize their production and marketing system (in particular contract farming or marketing) to face the rapid change in the retail landscape. Towards this end, the government has supported the establishment of contract farming among FFVs producers. However, the “unequal partnership” symptoms require government’s support to facilitate exchanges at all levels of marketing by reducing the transaction costs through better information, certification, grading, adequate infrastructures and encouraging cheaper funding arrangements between banks, supermarkets, suppliers and input companies.

Despite the rapid expansion of large retail chains, the small retailers also have strategic role in areas where they are needed to bridge farmers and buyers either geographically or in terms of services. This means that there is a need for support and incentives to help the small-scale traders (such as mobile market and small retailers) to compete in the market. Besides, the potential growth of “community supported farms” in the urban areas in Malaysia cannot be understated as consumers become more health conscious and concerned about their environment. Hence, the future growth of FFVs sector does not necessarily lie at the hypermarket stores only, but may shift closer to the consumers’ vicinity as has happened in the developed world.

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# Chapter 7

## An Innovative Marketing Model for Fresh Produce in China: Farmer-Supermarket Direct-Purchase

Dinghuan Hu and Fred Gale

In today's globalized economy, the transformation of the urban retail food sector in developing countries often outpaces that of the agricultural sector. Modern retail models transplanted from the developed world must interface with a lagging rural sector characterized by small-scale farmers and atomized chains of small suppliers and brokers. Tensions arise in several dimensions as modern retailers face intensive competitive pressures to minimize costs, while simultaneously offering quality and food safety assurances expected by urban consumers with rising living standards.

A number of supermarket chains in China are experimenting with "Farmer-Supermarket Direct-Purchase"<sup>1</sup> models that build strong direct linkages with aggregations of small-scale farmers as a strategy to ease these tensions. The direct-purchase model for fresh produce aims to reduce the number of links in the chain from producer to retailer in order to increase freshness, reduce procurement costs, and improve the transmission of quality and safety standards between producers and retailers. The program was an initiative launched by Chinese officials but implemented by private sector retailers as a means of incorporating small-scale farmers in modern supply chains and improving rural incomes (Hu 2010; Xin, <http://wenku.baidu.com/view/d576fab265ce050876321311.html>).

According to Jiang Zengwei, the "Farmer-Supermarket Direct-Purchase" model is

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The views expressed here are those of the authors and do not reflect those of the U.S. Department of Agriculture.

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<sup>1</sup> The Chinese term for the strategy, *nongchao dui jie*, is not easily translated; it connotes the formation of a linkage or interface between farmers and supermarkets.

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of great significance in leading the direct-purchase between large scale chained supermarket and agro-products professional cooperatives, establishing a logistics system which covers the whole production process of agro-products, improving quality of agro-products, inspiring agro-products circulation, as well as increasing farmers' income.<sup>2</sup>

The model was endorsed by a Ministry of Agriculture official as follows,

Through developing modern circulation approach of agro-products, Farmer-Supermarket Direct-Purchase has turned out to be effective way to help farmers' professional cooperatives to explore market and increase farmers' income.<sup>3</sup>

This innovation in system has achieved a win-win situation for farmers, supermarkets, and consumers (Hu et al. 2009). However, China's experience with this program reveals the challenges and costs entailed in bringing small-farm suppliers up to world standards. In this chapter, we explain the genesis of the direct-purchase program in China and discuss at length its implementation by one multinational retail chain. The discussion may provide inspiration and guidance for direct-purchase programs in other developing countries. However, our discussion also shows that the peculiarities of China's socioeconomic, political and policy milieu significantly shaped the implementation of the program.

## 7.1 Background to “Farmer-Supermarket Direct-Purchase”

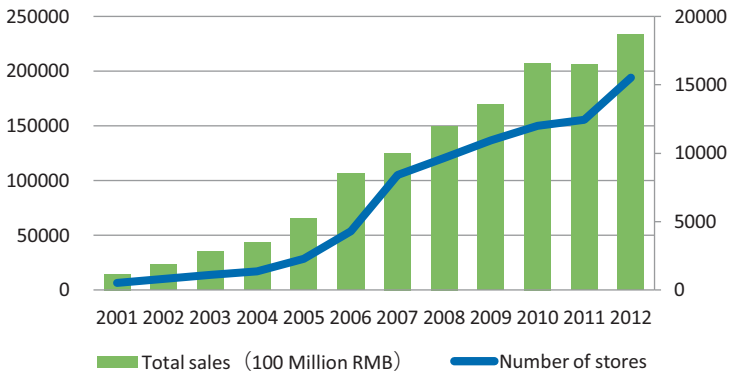
The direct-purchase strategy was conceived near the end of the first decade of the twenty-first century as an attempt to address problems in agricultural marketing and incorporate small-scale farmers into modern food-supply chains. China's reforms beginning in 1978 distributed usage rights collectively to individual farmers, and liberalized prices and privatized agricultural marketing. Stronger incentives not only stimulated greater productivity and reduced poverty, but also created a fragmented-farm structure comprising over 200 million small-scale farmers with land holdings averaging less than half a hectare (Xu and Wang 2009; Yang 2009). An associated network of small traders, brokers, wholesale markets, and retail vendors efficiently distributed produce to urban consumers. The development of the marketing system broadened dietary choices for urban consumers and helped farmers diversify from low-value grains and industrial crops to high-value horticultural, livestock, and aquaculture products.

Although, the atomistic marketing system is highly flexible and efficient, problems were evident by the 1990s. Independent farmers in remote areas rely on chains of brokers and traders to get their produce to final markets, and they are vulnerable to cyclical fluctuations in prices. There are many anecdotes about groups of farmers who began growing a new commodity, but found no buyers when the crop was

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<sup>2</sup> Jiang Zengwei, “Farmer-Supermarket Direct-Purchase: a good way to feedback agriculture”, “Seeking Truth”, 2009: 23.

<sup>3</sup> Zhao Tieqiao: Response to questions from journalists, when MOA decides on establishing farmers' professional cooperatives, Oct 14, 2009.



**Fig. 7.1** Top 100 retail chains in China: sales and number of outlets, 2001–2012. (Source: China Chain Store and Franchise Association)

harvested and abandoned the crop. Quality and safety problems also became widespread. Farmers often have little understanding of quality and grading requirements of final buyers. Residues from toxic chemicals and adulteration became widespread food safety hazards that are hard to detect when there are numerous anonymous links between producer and final consumer.

China's food retail sector was dominated by independent vendors and small shops until supermarket chains became widespread during the first decade of the twenty-first century. As described by Thomas Reardon, by mid-decade, growth was the fastest in the world<sup>4</sup>. In 2001, gross sales by China's Top 100 supermarket chains<sup>5</sup> totaled 117.7 billion Yuan, but rose more than 15-fold to 1.86 trillion Yuan in 2012. The number of stores rose nearly 30-fold, from 6520 to 193,983 (see Fig. 7.1).

Supermarkets are now the predominant outlet for purchase of daily necessities by Chinese urban consumers. One survey found that 81 % of consumers shopped in a supermarket at least once in a week.<sup>6</sup> The most mature markets have dense supermarket coverage. Beijing has more than 4000 supermarkets and food shops within its fourth ring road, approximately 5/km<sup>2</sup> (see Fig. 7.2).

In a fiercely competitive retail food market, supermarkets seek ways to cut prices and attract customers. In particular, Chinese supermarkets face a challenge gaining market share in fresh produce sales (Zhu et al. 2011). Wet markets and fruit stands continued to be the dominant outlets for fresh produce even after supermarkets had come to dominate packaged foods, dairy, and meats. Supermarkets viewed fresh produce as a strategic category. Chinese consumers shop for vegetables multiple

<sup>4</sup> Thomas Reardon, "Inspiration of the development of supermarket in developing countries on development of agriculture", speech on International "supermarket and agro-product production and marketing", Mar 24, 2004.

<sup>5</sup> The statistic bureau did not publish data on chained supermarket, What could be found are only information on "Top 100 supermarkets of China", published by China Chain Store and Franchise Association every year. See <http://www.ccfa.org.cn/viewArticle.do?method=viewArticle&id=ff8080813e0d6a70013e15f3bfcd0040&publishcid=ff8080812e2b85c8012e2b9bc5800001>

<sup>6</sup> <http://wenku.baidu.com/view/f0fdeb6727d3240c8447ef8e.html>



Fig. 7.2 Supermarket density in a district of northwest Beijing. (Source: Baidu Map)

times per week, so attracting produce shoppers can generate foot traffic and sales in other categories. Supermarkets had difficulty competing on both price and freshness because chains of traders and distributors they used added cost and time from field to shelf. Many supermarkets rented out produce counters to independent operators, but they had little or no control over the price or quality of produce offered.

Supermarkets also sought strategies to improve and standardize products and assure that produce is free of toxic chemical residues. Supermarket chains have an interest in developing and maintaining consumer goodwill by offering good quality produce. They are also vulnerable to legal action or loss of goodwill if they are implicated in any food safety incident.

The improvement of supply systems for fresh produce in a newly urbanized society was also a priority for government authorities in China. In the 1980s and 1990s, vegetables were supplied to urban consumers largely by farms on the fringe of cities and sold by vendors in wet markets overseen by municipal authorities or informally on street corners and in alleys. Fresh produce production began to concentrate in more remotely located regions as cities expanded and rural officials launched campaigns to form “production bases” specializing in high-value crops as a rural-development strategy.

With these changes in the marketing system, problems with high and volatile prices came to the attention of public authorities in China. High and unstable produce prices captured the public’s attention after widespread ice storms in 2008 and in 2010 when prices of a number of vegetables soared and later collapsed. The widening farm–retail marketing margin was viewed as lowering prices for farmers and raising prices for consumers. Authorities have undertaken a number of measures to reduce the margin between farm and consumer by reducing taxes, tolls, and fees and encouraging investment in logistics and cold chain facilities to improve efficiency and reduce spoilage and waste losses. Authorities hope to reduce volatility in produce prices by encouraging formation of fixed, long-term supplier relations between urban distributors/retailers and aggregations of rural producers.

Improvement of food safety and establishment of traceability systems is another important objective. Authorities anticipate that reducing the number of intermediaries and establishing fixed supplier relations will facilitate record-keeping, the capability of trace-back, and setting up reliable testing and certification systems.

The direct purchase model was proposed in 2007 by the Ministry of Commerce at a meeting of representatives from nine supermarket chains including multinational chains Carrefour, WalMart, and Metro, and seven domestic chains. The chains were receptive to the proposal, since the model had potential to address the problems noted above.<sup>7</sup> The Ministry of Agriculture—which oversees farmers and cooperatives—later became a key supporter of the program.

Tax waivers and subsidies made participation in the direct purchase program attractive. A major incentive is China's policy of exempting products sold by farmers or farmer cooperatives from value-added taxes (VAT), usually 13% for unprocessed products. The VAT exemption significantly reduces procurement costs for supermarkets. In 2009, the Ministries of Commerce and Finance launched a pilot program for granting cash awards to support the construction of distribution centers, cold chain facilities, and facilities for rapid testing of food products related to the direct-purchase program. In subsequent years, provincial and local governments increased their support for such projects.<sup>8</sup> Provincial- and national-level "model" farmer cooperatives participating in the direct purchase program were eligible for cash "awards" of 50,000 and 200,000 Yuan, respectively.

The farmer–supermarket direct purchase program formally began in 2009 with only nine supermarket chains and a few farmers' professional cooperatives and agricultural enterprises. By the end of 2011, there were over 800 supermarkets and over 15,600 cooperatives with more than 1 million farmers engaged in direct purchase.<sup>9</sup> Private-sector supermarket chains and farmer-supplier counterparts are the main actors in the program. However, officials of the Ministries of Commerce and Agriculture, and provincial and local governments have an important but nuanced role in the program, and supermarkets often rely on local officials to identify potential suppliers.

## 7.2 Major Models of "Farmer-Supermarket Direct-Purchase"

Supermarket chains have adopted several alternative "Farmer-Supermarket Direct-Purchase" strategies to eliminate intermediaries and establish long-term relations between supermarkets and farmers. The direct-purchase model is limited to fresh

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<sup>7</sup> This idea was agreed, when author discussed with the purchase directors of Carrefour, Wal-Mart, Metro, Wu-Mart, Chaoshifa, TESCO and so on.

<sup>8</sup> For example, In December 2012, one supermarket chain received 2 million Yuan (\$320,000) from the Chongqing municipal commerce commission for the direct purchase program. Guangdong Province's agricultural marketing and supply cooperative system published a list of 54 distribution centres to be constructed in 2013 using a special fund designated for the direct purchase program.

<sup>9</sup> Regular press conference of Ministry of Commerce, Feb 16, 2012

produce, aquaculture, and a few other products that do not require significant processing. Pork, for example, is excluded since it must pass through a slaughtering-processing enterprise (except in the rare instance where a farmer cooperative has a facility to slaughter and process its own pork).

In traditional supply chains, products pass through as many as five links from farmer to retailer, including brokers, several types of wholesalers, and supermarket distributors. Each link adds to the cost, and products may be lost or damaged at each stage in handling and transportation.<sup>10</sup> Moreover, the retailer can have little certainty about product origin, production methods and contamination from chemical application, environmental pollution, or adulteration when there are many links in the supply chain.

Direct purchase models reduce the number of intermediaries and establish varying degrees of control over producers. Currently, “Farmer-Supermarket Direct-Purchase” in China includes three main strategies: (1) supermarket-operated farms; (2) supermarket + agricultural enterprise + producers; and (3) supermarket + farmers’ professional cooperatives + producers (Fig. 7.3).

### 7.2.1 Supermarket Vertical Integration

In a vertically integrated model, supermarkets grow and market produce from company-operated farms. An example of this model is Jiajiayue Supermarket, a mid-sized regional chain serving Shandong, a province with a population of 90 million on China’s east coast. In 2011, Jiajiayue had 573 stores, mainly community stores (500–2000 m<sup>2</sup>) and large-scale supermarkets (over 6000 m<sup>2</sup>).<sup>11</sup> In 2011, the gross sales of Jiajiayue totaled 15.1 billion Yuan and was ranked No. 31 among supermarket chains in China.

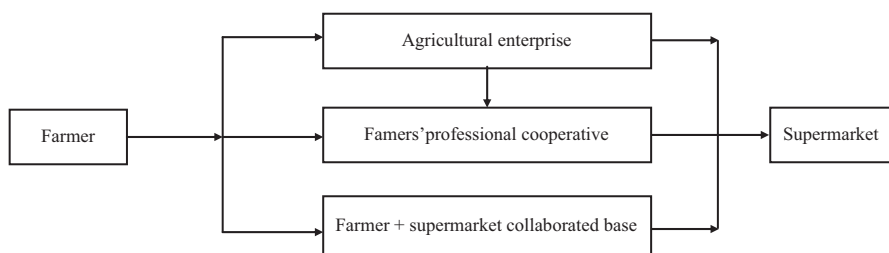


Fig. 7.3 three major models of “farmer-supermarket direct-purchase”

<sup>10</sup> In 2006, the author had investigated in Henan Province, and found out that at beginning farmers sold tomatoes to brokers at a price of 2 Yuan/kg. Afterwards these tomatoes were transported to the City of Zhengzhou (a distance of 100 km), where the suppliers sold the tomatoes to supermarkets at a price of 5 Yuan/kg.

<sup>11</sup> According to China’s National Standard on sales format, community supermarket: 500–2000 m<sup>2</sup> operation area; comprehensive supermarket: 2000–6000 m<sup>2</sup>; Large-scaled supermarket: more than 6000 m<sup>2</sup>. <http://wenku.baidu.com/view/b1ab946527d3240c8447efda.html>

Jiajiayue operates 26.6 ha of vegetable farms near the City of Weihai. In 2009, Jiajiayue made an agreement with villagers in Wenquan Town to pool their land-holdings and lease the land for company-operated farm.<sup>12</sup> Jiajiayue pays land rent to households and hires some village residents as farm laborers. Jiajiayue employees manage the farm and use prescribed management techniques. All the vegetables are marketed through branches of Jiajiayue. The company describes their model's objective as: "combine farmer and company assets to form a community of interests, guaranteeing product quality and benefits for each party."<sup>13</sup>

### ***7.2.2 Supermarket + Agricultural Enterprise + Agro-Products Producer***

Another model establishes a subsidiary enterprise to procure produce from growers

The Metro supermarket chain set up a wholly owned subsidiary, Star Farm Agricultural Information Consulting Co., Ltd. (referred to as "Star Farm" below) to procure produce. In 2007, Star Farm established a "production base" on the outskirts of Hefei—the capital of Anhui province—with support from the Ministry of Commerce, provincial and city governments. Star Farm provides training service for producer-suppliers in the base area and helps set up quality and traceability systems. Products from the base are supplied by Star Farm directly to Metro stores.

The successful experience of Hefei base prompted Star Farm to extend the model to other regions and products. By April 2010, more than 80 suppliers of more than 900 products nationwide had been trained and audited (Hu 2010).

### ***7.2.3 Supermarket + Farmers' Professional Cooperatives + Agro-Products Producers***

In the most common model, the supermarket chain purchases from a producer cooperative comprising small-scale growers. This model is encouraged by authorities since it dovetails with a campaign to promote cooperatives as a means of organizing producers, facilitating investment, and delivering technical services to farmers. A "Farmer Cooperative Law" was promulgated in 2007 and the number of cooperatives has increased rapidly since then, but newly established cooperatives are generally small in scale and lack a stable sales channel for their products. Authorities anticipate that participation in "Farmer-Supermarket Direct-Purchase" can address these problems (Hu and Zeng 2009). Below, we discuss the Carrefour direct-purchase strategy in detail as an example of this model.

<sup>12</sup> Rural land in China is collectively owned and can be leased or subcontracted, but not sold.

<sup>13</sup> Data resource: a paper named "JiajiayueWenquan Green Vegetable Planting base", <http://www.jiajiayue.com/OtherView.Asp?id=59>



### 7.3 Carrefour “Farmer-Supermarket Direct-Purchase” Model

Carrefour management enthusiastically pursued direct purchase following the 2007 meeting held by the Ministry of Commerce. Mr. Eric Legros (former Carrefour CEO) classified “Direct Purchase” (shortened below to “DP”) as a presidential project that he himself would lead. An executive from the Carrefour’s global procurement operation was assigned to implement the DP project as General Director of Department of Fresh Products of Carrefour China.

Mr. Eric Legros expressed the project’s objectives very clearly: “Through the farmer direct-purchase project, customers can buy inexpensive and safe fresh produce while farmers earn more money and gain greater expertise. It’s truly a win-win situation” (Legros 2010).

With strong promotional efforts, Carrefour’s DP project developed rapidly from 2 cooperative-suppliers in 2007 to 529 in 32 provinces and districts of China in 2012 (see Fig. 7.6). In 2012, the DP gross purchase value reached 487 million Yuan (see Table 7.1 and Fig. 7.4).

During its 6-year experience with the DP project, Carrefour made adjustments to optimize the purchase system and personnel structure. Below we describe its organization structure, its approach to recruiting and fostering supplier-partners, recount the experience of implementing the program for domestic stores and a new initiative to include DP suppliers in the company’s global procurement system.

#### 7.3.1 DP Organization Structure

As a foreign-invested company, Carrefour has met various challenges in implementing the DP project in China, and the establishment of the management system and team was slow and time-consuming. Carrefour maintained an attitude reflected by Mr. Sebastien Defois’s catch phrase, “We can find solution”.

Carrefour DP has a two-pronged purchase system that includes a national purchase system for produce that can be sourced in large quantities nationwide and a city concentrated purchase system (CCU) for regional specialties.

A national purchase system, located at Carrefour’s China headquarters in Shanghai, is responsible for purchase of agro-products which meets the following requirements: (i) products with quality appearance and taste and favorable natural conditions in production areas; (ii) relatively large volumes available; (iii) products are suitable for long-distance transportation and favorable distribution conditions; (iv) producers are farmers’ professional cooperatives.

**Table 7.1** Carrefour DP suppliers and purchase amount. (Data resources: investigated by author)

	DP suppliers	Gross DP purchase amount (Yuan)
2009	195	125,686,875
2010	303	316,342,965
2011	431	439,232,918
2012	529	487,631,385



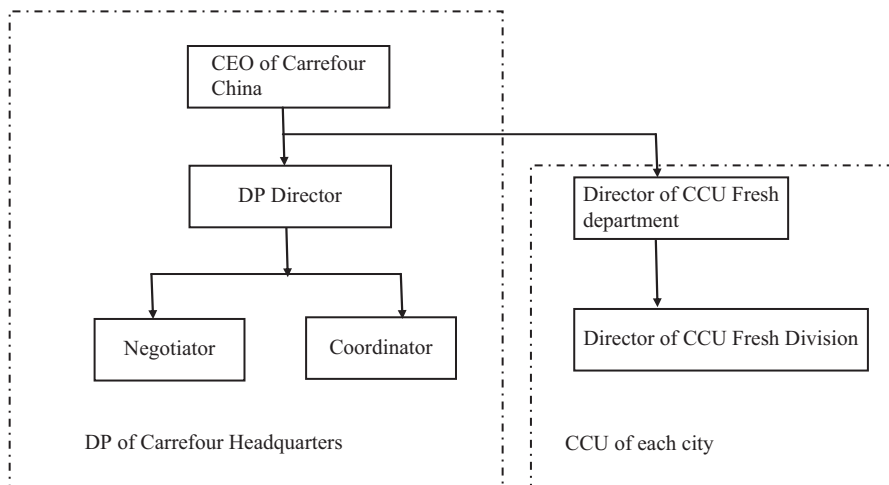
Fig. 7.4 Number of Carrefour DP cooperatives by Province

The national DP team consists of business personnel from headquarters and coordinators posted on site. Headquarters managers coordinate purchase and allocation of products. Coordinators are stationed in the main producing area for each agro-product and work directly with farmers’ professional cooperatives, conducting training, helping them monitor product quality, and preventing the delivery of substandard products. Coordinators also are tasked with identifying new product bases and cooperative-suppliers within the assigned district.

a. City concentrated purchase system (CCU)

CCU is concentrated in particular regions, including the area surrounding certain large cities or a collection of mid- and small-sized cities.<sup>14</sup> Each CCU has its own DP purchase team, and is led by the director of the fresh produce department. CCU mainly purchases products from cooperatives within a 50-km radius. Procurement is localized for products not suitable for long-distance transportation such as leafy vegetables and aqua-products (live fish), and products unique to particular areas, such as water chestnuts and water celery in Jiangsu and Zhejiang Province (Fig. 7.5).

<sup>14</sup> For example, the Anhui CCU manages four cities: Hefei, Bengbu, Xuzhou and Yancheng. Hefei and Bengbu belongs to Anhui Province, Xuzhou and Yancheng belongs to Jiangsu.



**Fig. 7.5** Organization structure of Carrefour DP

### 7.3.2 DP Cooperative Partners

Most Carrefour DP suppliers are farmers' professional cooperatives.<sup>15</sup> The company considers providing a stable market and higher purchase price to farmers as part of its "corporate social responsibility (Defois 2009).<sup>16</sup>

Initially, Carrefour had difficulty finding suitable cooperative partners. The few existing cooperatives at the program's inception were small, lacked organizational ability and management experience. To find suitable DP cooperative partners, Carrefour put more resources into its DP team, sought support from various levels of government, and recruited experts to locate partners and provide technical and management expertise.

Carrefour has developed a set of standards that cooperatives must attain before they become DP cooperative partners:

- 1) The legitimacy of cooperatives is established by proper licensing and registrations. In order to prove their legitimacy, prospective cooperatives must provide their business license, organization certificate, and tax registration. (see Graph. 8);
- 2) Cooperatives must be able to supply products for more than 6 months per year, and each shipment should be at least one truck load (20 t)<sup>17</sup>;

<sup>15</sup> In China, "farmer professional cooperatives" are focused on farming operations and are distinguished from village cooperative organizations that collectively own and manage land, and they do not engage in nonagricultural activities.

<sup>16</sup> This idea was proposed by Mr. Eric Legros (previous CEO of Carrefour China), when he first communicated with Dr. Hu Dinghuan about Carrefour DP project. As a foreign invested company in China, Carrefour thinks that it has obligation to contribute to China.

<sup>17</sup> Author: this term is targeted to national DP, the demand quantity of CCU is not so big.



Fig. 7.6 Required document of Carrefour DP cooperatives

Tax-related Certificate No 2006-01: Farm Produce Self-Supplying Certificate

涉税证明第 2006-01 号：农副产品自产自销证明

适用 Apply to ( ) 公司 Company

以下由供应商填写 Filled by suppliers

姓名 Name	身份证号码 ID No
供应商号 Supplier code	住址和电话 Residence Address & telephone No
65 经营性质 Business nature	=承包 Contract =个体经营 Self-employed =其它 Others ( )
从事农业生产的种类 Farm production field	=种植业 Planting =养殖业 Breeding =捕捞 Fishing =其它 Others ( )
从事农业生产所在地 Production address	( ) 省 Province ( ) 市 City ( ) 县 County ( ) 乡 Town ( ) 村 Village ( ) 大队 Unit



Business License



Organization Code



Tax Registration Certificate

Tax-related Certificate No 2006-01: Farm Produce Self-Supplying Certificate  
涉税证明第 2006-01 号：农副产品自产自销证明

适用 Apply to: ( ) 公司 Company

以下由供应商填写 Filled by suppliers

姓名 Name	身份证号码 ID No
供应商号 Supplier code	住址和电话 Residence Address & telephone No
65 经营性质 Business nature	=承包 Contract =个体经营 Self-employed =其它 Others ( )
从事农业生产的种类 Farm production field	=种植业 Planting =养殖业 Breeding =捕捞 Fishing =其它 Others ( )
从事农业生产所在地 Production address	( ) 省 Province ( ) 市 City ( ) 县 County ( ) 乡 Town ( ) 村 Village ( ) 大队 Unit

Farm Produce Self-Supplying Certificate

Fig. 7.6 Continued

- 3) Cooperatives must meet pollution standards for air, water, and soil in production areas;
- 4) Cooperatives need to entrust full-time quality management personnel to ensure that product reaches Carrefour specifications and quality requirements;
- 5) Cooperatives should use a packing house equipped with precooling and cold storage (either owned or leased);
- 6) Cooperatives must be able to issue “home-grown” agricultural products certificates that verify that the products sold are grown by the members. Supermarket operators must provide this documentation to authorities to verify that DP products are exempt from VAT.

- 7) Cooperatives must be located in a production area of agro-products, but not cities where Carrefour branches are located.<sup>18</sup> Cooperatives are required to distribute profits to members (Defois 2010).

To attract quality farmers' professional cooperatives to participate in Carrefour DP projects, Carrefour provides many preferences, including waivers of slotting allowances, barcode and restocking fees and a purchase price 10% higher than in the local market, and a shortened-payment period. Initially the payment period for cooperatives was set at 15 workdays,<sup>19</sup> (versus 2 months for other suppliers), but was later reduced to 5 working days and then zero working days in 2011<sup>20</sup>.

### 7.3.3 *Audit and Supply Procedure for Cooperatives*

Few Chinese cooperatives can easily meet Carrefour's strict requirements (Zhang 2009; Guo et al. 2008). Carrefour hires third-party auditors to assess potential cooperative partners and ensure that they meet standards for DP partners. Third-party auditors are employed to take advantage of their expertise and objectivity. Auditors verify the scale, facilities, product quality and review documentation, and accounts. They conduct interviews with cooperative members to assess cooperative governance, including whether board members are democratically elected and whether profits are distributed to members. Audits check pesticide use, management and storage; potential contamination from nearby chemical plants, or polluted rivers; and availability of pesticide residue-testing equipment. Auditors submit findings and recommendations to the DP department of Carrefour headquarters to support the final decision. Headquarters instructs coordinators to sign contracts with approved cooperatives (Hu 2010).

A DP supplier's delivery also has a fixed process, including: a. quotation; b. order confirmation; c. stocking and quality check in place of origin; d. loading and transport; e. confirmation of receipt; f. Distribution center quality checks; g. stores distribution; h. invoicing; i. supermarket payment.

- a) Suppliers submit quotations.

DP suppliers submit a quotation list to the DP department every Monday by email (or by text messages for those who lack computer equipment). The quotation includes the product name, grade, size, maximum quantity that could be delivered that week, location of production.

<sup>18</sup> The reason of this term is avoid the previous Carrefour suppliers to imitate as DP suppliers. The previous suppliers do not produce by themselves, and mainly purchase products from wholesale market to provide to supermarket.

<sup>19</sup> Sebastien, "Training on DP" in 2010.

<sup>20</sup> Sebastien, "DP training" 2011. The waiver of fees and shortened-payment periods for direct purchase suppliers is required by government authorities.

b) DP Department places orders.

Negotiators compile quotes from all DP suppliers and distribute them to centralized purchasing departments in various cities. Purchasing departments submit desired quantity and delivery time to negotiators via purchase order. Negotiators of headquarters then place orders with DP suppliers by email (or text message).

c) Packing and quality check at place of origin.

After receiving an order, DP suppliers deliver products from fields or cold storage to a packing shed. Problems arose at this stage during the initial years of DP, because poor handling, grading, and sorting led to high defect and rejection rates. Sometimes this was due to lack of knowledge, but some cooperatives tried to hide compliant products at bottom of the box. During the stocking period, Carrefour dispatches a coordinator to the site for supervision and guidance. Close supervision, training, and deductions for noncompliant product have reduced rejection rates.

d) Loading and transportation.

After products are loaded, DP coordinators on site have to fill in an order receipt confirmation and quality checklist at the place of origin. Perishable products and those being transported long distances must be transported in a refrigerated vehicle.

Most DP suppliers must use a third-party logistics company for long-distance transportation to a Carrefour distribution center. There is a risk of degraded quality or spoilage during transportation, or even theft of goods by an untrustworthy truck driver. DP suppliers must either send personnel with the truck or rely on the driver to oversee the acceptance process and receive documents from Carrefour.

e) Confirmation of receipt.

At the Carrefour distribution center, inspectors check whether the products comply with supermarket standards. Five percent of the product is randomly sampled from the truck load.

Carrefour will receive the goods without deduction if the failure rate is within the allowed range of 3%. If the failure rate exceeds 3% and is less than 10%, then the failure rate above 3% is deducted from the load. If the rejection rate exceeds 10%, the supermarket may reject the delivery. Coordinators and suppliers are both held responsible for a high rejection rate. The rejection rate is taken into account in the annual performance appraisal of coordinators.

f) store distribution

In cities with multiple Carrefour stores, DP suppliers deliver goods to city distribution centers which then distribute product to stores. In cities with few stores, DP suppliers may deliver goods directly to branch stores.

g) Invoice

The supermarket reports the receipt quantity on a company website after receiving goods. Supplier cooperatives check the information and issue an invoice to the supermarket's finance department if the information is correct.

#### h) Payment of supermarket

After they receive the invoice, the supermarket submits a payment to the cooperative. Initially, the payment period of supermarket was 15 working days (compared to 60 days for most suppliers). The payment period has now been reduced to “zero” working days, which means payment is submitted to the account of the cooperative on the same day supermarkets receive an invoice.

### 7.3.4 *DP Training Courses*

Since 2008, Carrefour has held 49 DP training courses attended by nearly 5797 representatives from cooperative partners. Training is held in major producing areas of fruits and vegetables with coordination by Ministries of Agriculture and Finance. Government officials, managers and coordinators from the Carrefour DP department, and experts on agro-technology and management coach cooperative representatives on government and company policies and technical information on pesticide use and food safety-related topics.<sup>21</sup>

### 7.3.5 *DP Case: Linong Farmers’ Professional Cooperative*<sup>22</sup>

The Linong Farmers’ Professional Cooperative in Xinjiang Uygur Autonomous Region is an example of a successful DP supplier. The cooperative was founded in 2009 by a young but experienced farmer named Zhang Li in Turpan, a region known for its grapes and muskmelons. The cooperative began with 50 members and 1000 mu (67 hectares) of land and Mr. Zhang was elected as the director.<sup>23</sup>

The Linong Cooperative was identified as a potential DP supplier to Carrefour in 2009, with help from the county government. Initially, the cooperative lacked experience in meeting supermarket quality requirements, logistics, finance, and other areas. Improvements were made with Carrefour’s help and guidance. The number of members rose to 210, and the land area grew four-fold. The cooperative’s deliveries to Carrefour rose from 259.7 t in 2009 to 983.8 t in 2011, including melons, grapes, and raisins. Its sales to Carrefour supermarket rose from about 30% of cooperative sales to 52%.

<sup>21</sup> “DP Training course document for Farmers’ Professional Cooperatives”, composed by Carrefour Food Safety Foundation, May 22, 2013, Aksu, Xinjiang Uygur Autonomous Region.

<sup>22</sup> The case of Linong Farmers’ Professional Cooperative is composed by Mr. Wu Jianhe (DP coordinator of Carrefour in Xinjiang), appreciate it very much. The authors also consulted other online articles.

<sup>23</sup> While Chinese cooperative by-laws specify democratic votes to elect officers, it is likely that Mr. Zhang exerts a high degree of control over the cooperative since he founded it and the cooperative—like many others in China—appears to be named after him and he is quoted in all news media articles about the cooperative.



The cooperative was designated as a “Xinjiang demonstration cooperative” and serves as a model for other cooperatives. In 2013, Xinjiang had 678 model cooperatives which have favorable access to funds and other assistance for land improvement, irrigation, and technical assistance program and aid for equipment and machinery purchases. Initially, the Linong cooperative only had a crude shed for packing, but it later constructed a modern packing house with machines for washing, sorting, and packaging raisins. Mr. Li, the cooperative chairman, said that having a stable market with a stable price allowed the cooperative to concentrate on production and quality improvements. One of their strategies for quality assurance is to admit new members on a trial basis for a year, only allowing those meeting quality standards to become permanent members.<sup>24</sup>

The direct purchase program in remote regions like Xinjiang has tangible benefits for producers and consumers. Specialty products from Xinjiang valued by high-income consumers in coastal cities now have a national market, bringing higher returns to producers. Before the direct purchase program began, real Turpan grapes and Hami melons were seldom available in supermarkets of Beijing and Shanghai, but now they are widely available.

### ***7.3.6 Inclusion in Global Procurement Network***

In November 2011, Carrefour took another step to incorporate its China DP suppliers into its global procurement network when it opened the China office of SOCOMO, the company’s organization for global fruit and vegetable supply. This was the first overseas office of SOCOMO set up outside Europe (China Business 2011).

SOCOMO is a global fresh-product purchase company of Carrefour, established in 1987, headquartered in Spain with more than 500 suppliers. It purchases fresh fruits and vegetables from 46 countries and districts and sells to Carrefour stores in 18 countries and districts in Europe, Asia, and Latin America. SOCOMO has complete product varieties in different levels, and could meet the demand/requirement of consumers in each different level (SOCOMO, [http://www.freshplaza.com/news\\_detail.asp?id=993#SlideFrame\\_1](http://www.freshplaza.com/news_detail.asp?id=993#SlideFrame_1)). Establishing a SOCOMO China office potentially can help DP suppliers to export, but development of the program has been a challenge since few Chinese cooperatives have exporting experience (China Business 2012).

Carrefour began by training a number of DP suppliers as potential SOCOMO suppliers. First, coordinators from different districts recommended 50 DP suppliers with quality products, safe planting environment, better software and hardware. Each supplier was then audited by the director of quality department of Carrefour using a set of standard system based on Global GAP, developed based on Carrefour’s practical experience working with suppliers. The core of the audit is an

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<sup>24</sup> See “Farmer-Supermarket Direct Purchase’ Allows Xinjiang Agricultural Products to be Sold Nationwide”, Urumqi Online, March 8, 2011. [http://www.chinaxinjiang.cn/newindex/sdz/t20110308\\_723402.htm](http://www.chinaxinjiang.cn/newindex/sdz/t20110308_723402.htm)

assessment of contamination by pesticides and other chemicals, product quality risk management, microbiological and social risks.

The audits are stringent. For example, audits check whether orchards have detailed records of pesticide use, disposal of empty pesticide packaging, and whether farmers know proper dilution ratios. They verify that the supplier conducts soil analysis tests at least once every 2 years and ensures no unapproved fungicides are used. Audits verify that Carrefour postharvest handling requirements are followed and that storage room temperature is controlled. Personnel in packing houses must have had medical checks and the facility must have a toilet. Social risk constitutes primarily an audit of the personal safety of the staffs and corporate social ethics, ensuring that all workers have signed labor contracts and no children are employed in the processing plant.<sup>25</sup>

The performance in the audit determines which market can be served by the supplier. The audit has a point system with a maximum score of 100. If the supplier scores below 50, they cannot become a SOCOMO supplier until remediation is undertaken. A score of 50–70 qualifies the suppliers' products for export to Asia and Middle-East; scoring above 70 qualifies the suppliers' products for export to Europe as well as Asia and the Middle-East.

In the first batch of suppliers audited, only 6 got a score above 50, indicating that few cooperatives in the DP program were performing at world standards. Carrefour launched a "Food Safety Improvement Plan" with the aim of thorough training and guidance to help more DP suppliers pass the audit. The first step was to provide 12 months of coaching to graduate DP suppliers from "primary food safety" to "senior food safety" grade. After another 6 months of coaching, DP suppliers established a "complete quality system", followed by another 6 months to meet BRC Global Standards and SQF (Frachon 2013). By May 2012, 63 DP suppliers had passed the "minimum standards audit" (SOCOMO 2013).

In the initial stages SOCOMO exerted a lot of effort nurturing suppliers. For example, a pomelo DP supplier in Fujian Province had no export experience, and was assisted by the purchase manager of SOCOMO in applying for several export registrations required by China's quarantine authorities and completing documents required by overseas customers. The manager made more than ten round-trips between Fujian and Shanghai to assist the supplier.<sup>26</sup>

By May 2013, 14 cooperatives had begun exporting through SOCOMO. Since its establishment, SOCOMO has purchased 5700 t of fruits and vegetables valued more than 5 million €. Eighty percent of shipments were transported to Europe, 5% to the Middle-East, Taiwan, and Indonesia, 3% to India, and 2% to Malaysia (Frachon 2013). This is a tiny share of China's fruit and vegetable exports—which totals in millions of tons—but the program has played a significant role by bringing small producers into the global market for the first time and disseminating knowledge of techniques, practices and standards.

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<sup>25</sup> Data resource: author directly asked the quality manager who is responsible for this work.

<sup>26</sup> Data resource: author interviewed this manager through phone call.

At the same time, SOCOMO's China Office imported produce from farmers of other countries for sale in Carrefour's stores in China. Products included papaya from Vietnam, grapes from Chile, and oranges from South Africa.<sup>27</sup> SOCOMO has developed a new model for global trade—direct purchase.

## 7.4 Summary

As a new model for marketing fresh produce, “Farmer-Supermarket Direct-Purchase” is increasingly popular among supermarkets and farmers in China. For supermarkets, direct purchasing is helpful in reducing purchase prices, improving quality and freshness of products. Perhaps more importantly, it helps to improve food safety, benefiting both supermarkets and consumers.

For producers, DP provides a stable market with a higher sale price, and is also helpful for improving the organization and management of cooperatives. “Farmer-Supermarket Direct-Purchase” encourages producers to adhere to prescribed standards and procedures, and is of great significance for facilitating the transition from traditional to modernized agriculture.<sup>28</sup> The “Farmer-Supermarket Direct-Purchase” program addresses long-standing challenges of incorporating small-scale farmers into supply chains, fostering investment in logistics infrastructure, reducing marketing costs, and disseminating technical information to farmers.

Forging closer relations between retailers and producers is a more effective approach to improve food safety and quality than the traditional approach of relying on product-testing to detect substandard food. Strengthening the interface between retailers and producers reduces information asymmetries that lead to food safety hazards. Chain-store retailers cultivating consumer loyalty have an interest in controlling safety and quality of food. Direct relations with producers permits retailers to transmit standards and practices to producers and to offer inducements and sanctions to ensure that standards are met. The prospect of stable demand from the supermarket gives producers an incentive to meet stringent standards.

As a model that addresses a number of chronic problems and market failures in China's transition to an urbanized food supply system, direct purchase potentially improves social welfare. The role of government authorities in the farmer-supermarket direct purchase program is nuanced and perhaps reflects China's unique intertwining of government and communist party organization with promotion of commercial interests. Policy inducements, including exemption from value-added tax and grants for facilities construction, played a critical role in making participa-

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<sup>27</sup> Data resource: author interviewed SOCOMO manager through phone call.

<sup>28</sup> Premier Li Keqiang proposed when investigating family farm in Jiangsu Province, that “to develop modern agriculture through stock cooperative, family farms and cooperatives”. The same idea was put forward in “Document No. 1 of 2013”. [http://www.dz.www.com/xinwen/guoneixinwen/201303/t20130329\\_8171059.htm](http://www.dz.www.com/xinwen/guoneixinwen/201303/t20130329_8171059.htm)

tion attractive to supermarket chains and cooperatives, but the role of monetary incentives is relatively small in comparison to other agricultural programs.

The role of China's dual government-communist party hierarchy as an organizational network may be at least as important as government subsidies and tax breaks.<sup>29</sup> The Ministry of Commerce played a key role in launching the program by meeting with nine privately operated supermarket chains and urging them to participate. The Ministry of Agriculture and local authorities were instrumental in promoting the program in rural areas and identifying potential suppliers. Grass-roots communist party organizations play a nearly invisible role as a commercial network. The party network is used to promote such programs and many of China's farmer cooperatives were set up by village branch offices of the communist party. Party chiefs are often the main contact for identifying suppliers (or their assent must be obtained for a company to gain access to potential suppliers) and training sessions are frequently held in communist party branch offices. On the one hand, this extensive political/business network enables China to scale-up programs like this much faster than other countries. However, the system also lends itself to corruption and lack of transparency. One of the authors worked with a cooperative that claimed to have good quality products with a low price, but was rejected as a supplier to an institutional cafeteria because the manager received kickback payments from another supplier.

Supermarkets' expenditure of funds and personnel resources required to foster direct-purchase suppliers is not entirely motivated by prospective economic returns from the direct purchase program itself. Like Carrefour, in recent years many companies operating in China have been making investments in agriculture to fulfill their "corporate social responsibility." While this responsibility is motivated by altruistic motives to some degree, engagement in rural projects is probably calculated to win favor with government authorities that is necessary for the company to pursue its broader business interests in China.

Direct-purchase has grown rapidly and the principle has been extended to other types of food outlets. There are programs to promote direct-purchase by school and institutional cafeterias and to set up community food shops and sales counters operated by farmer cooperatives. However, there are many obstacles to direct sales by farmers and most fresh produce still passes through traditional supply chains. Supermarkets still account for only 30% of fresh products sold in China. China's farmer cooperatives are still small, few have skilled technicians, accounting or management personnel.<sup>30</sup> The failure of Carrefour's best suppliers to pass the initial SOCOMO audit is a reminder that Chinese growers need substantial coaching and investment to reach world standards.

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<sup>29</sup> The Chinese communist party's role as a business network is discussed by McGregor 2010.

<sup>30</sup> For example, cooperatives in Jiangxi Province only have an average member quantity of 11. [http://www.ncnews.com.cn/ncxw/jrnc/t20090827\\_480796.htm](http://www.ncnews.com.cn/ncxw/jrnc/t20090827_480796.htm)

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## Chapter 8

# Retracted: Regulation of Retail: Comparative Experience

Anuradha Kalhan and Martin Franz

The global “retail phenomenon” of the 1990s led by firms such as Wal-Mart, Costco, TESCO, Giant, Makro, Carrefour, Aeon, Ahold, Aldi, Metro and others was a result of the material and cultural developments in advanced capitalist countries. Access to cheap capital, huge economies of scale in retail trade, progressive consolidation of purchasing power over suppliers, highly efficient sales forecasting techniques, transportation and replenishment systems (that incorporate state-of-the-art information processing and supply chain logistic systems), expansion of the suburban population and spread of consumerism across all classes were some of these developments (Gereffi 1994; Arnold and Fischer 1994).

On the other hand, the global retail phenomenon now spreading across emerging markets is supported primarily by the political economy of neoliberalism and only a few socioeconomic developments comparable to those in advanced capitalist countries. The most noticeable changes are half a century of industrialisation, enlargement of the middle class and growth of national monopoly capital. The changes have come with associated sociocultural transformations, very swift urbanisation and impersonalisation of urban social relations, loss of old identities, a sense of new status definition and individuality asserted by purchase of mass-produced, western-designed, branded commodities (Warf and Chapman 2006).

With rapid advances in mass media, and in the science of construction and manipulation of consumer consciousness, shopping has become a leading leisure activity. Class is now more often conceived in relation to competitive emulation in consumption rather than in relation to production. This feeds back into and strengthens existing global economic and power structures, leading to a high degree of concentration and control by corporate retailers over both ends of the chain manufacturing

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and consumption (Robinson 2004: 78). These are broadly the conditions within which global retailers are locating themselves in developing countries. Intelligent regulation in emerging markets is conspicuous by its absence but it can hardly be overemphasised.

This chapter examines the nature of regulation in the context of developments in the corporate retail sector in India, emerging markets in some Southeast Asian countries and in Germany. German regulation (Christopherson 2006) is considered to be the most effective, for an advanced retailing country, from both points of view, i.e. the consumer and competition. The Southeast Asian economies referred to help in illustrating the situation in other newly industrialised countries.

## 8.1 Retail in Emerging Markets

Over the past decade, the transformation of the retail sector has reached many emerging markets in Central and Eastern Europe, East Asia and Latin America (Coe and Wrigley 2007; Wrigley and Lowe 2002) pushed by factors such as the consolidated market situation in the states of origin of the transnational retail companies and home market saturation. However, it is the pull factors at work such as the rapid liberalisation of retail policies in emerging markets that seem to be more important (Coe and Wrigley 2007; Alexander 1997). The liberalisation agenda itself seems to have been vigorously promoted by the governments and agents of these giant retailers.

The Southeast Asian experience is of particular interest and concern in India where rapid changes in the sector are afoot. The retail industry in that region was dominated by wet markets and small, local family-owned stores that operated under limited municipal level regulation regarding location until the end of the colonial period (Mutebi 2007). Thereafter, the sector grew and modernised slowly, mainly with local capital and under state regulation to some extent. This is true for India as well.

The more sophisticated retail outlets such as supermarkets first came into prominence during the economic boom of the 1980s and 1990s, experienced by Southeast Asian regions in the form of joint or local ventures, sometimes with foreign retailers' participation through franchise and technical collaborations that took advantage of lax regulatory policies. The aftermath of the 1997 East Asian financial crisis allowed a select group of multinational retail firms to gain a foothold in the emerging markets of Indonesia, Malaysia and Thailand (and elsewhere in the region) via a combination of mergers and acquisitions, joint ventures and partnerships as many local corporate retailers suffered debt problems and local customers reverted to traditional markets (Davis 2000).

Indonesia, for example, agreed to adopt more liberalised retail and consumer sector policies in January 1998 in exchange for financial assistance in a deal with the International Monetary Fund (IMF). Since then, the modern retail outlets, par-

ticularly the transnational, large format chains have spread rapidly in the heavily populated urban regions. There are 200 large-format retail centres controlled by transnationals in Malaysia, Thailand and Indonesia alone. The drastic changes induced in these host countries due to the internationalisation of retail and the inevitable protest by traditional retailers and intermediaries led to the issue coming up before regulatory authorities. The most important concerns are the impact of these retail chains on local competition; elimination of small and medium-size retail and their environmentally wasteful use of resources particularly open spaces in densely populated urban centres. Notwithstanding the two decades of growth, regulations to deal with international corporate retailing are few and varied with the absence of a one-stop regulatory agency (Mutebi 2007). The regulators seem to be caught between conflicting goals of promoting trade competitiveness and economic efficiency on the one hand and defending the interests of smaller firms, environmental interest groups and consumers on the other. These sectors fall under the purview of multiple ministries and departments or governmental agencies of the central and state administration like that of commerce, trade and consumer affairs. The regulatory mechanisms usually fall into the following categories: (1) competition laws that broadly promote competition, deal with the issues of market structure and functioning, restrictive trade practices, e.g. pricing below cost price (predatory pricing) intended to eliminate competition, issues of abuse of dominance, and price-fixing; (2) land and property laws that restrict the amount and size of land that can be owned by individual entities, foreign entities and so on; (3) foreign direct investment (FDI) laws that restrict the amounts and sectors into which FDI can flow; (4) zoning laws that deal with town planning, land use and building codes; (5) municipal laws that deal with business timings; (6) environmental laws, and (7) labour laws.

Countries such as Indonesia, Thailand and Malaysia, which up to the 1990s had a laissez-faire policy towards the retail sector regulations, are now moving in the direction of increasing restrictions on large format retail using a combination of laws and regulations, to impose restrictions on the proliferation of multinational retailers, large-format shops and the domination of the market by a small number of retailers. In many instances these drives are being impelled by indigenous retailers (Coe and Wrigley 2007:362 f). Malaysia, for instance, imposed a 5-year renewable ban in November 2003 on the construction of large format retail stores in Klang Valley, which includes densely populated urban areas like Kuala Lumpur. New guidelines have lengthened the approval period for developers seeking to develop similar stores in other provincial urban areas from 4 months to 2 years and new hypermarkets are prohibited within 3.5-km radius of city centres or housing areas. Thailand has also passed laws to restrict development of large-format stores in inner city areas but it relies, like Indonesia, a lot more on competition laws to control them. The Thai competition commission has powers to search premises without a search warrant and to arrest violators. However, the general opinion is that both the competition and enforcement laws are lax and favour the big players.



While regulatory systems take time to respond to these changes, full or partial liberalisation of the retail sector has been gathering momentum in some other emerging markets from the end of the 1990s such as China, Russia and India.

## 8.2 Retailing in India

Traditional food and grocery retailing in India (which accounts for 70% of retailing) can be best described as dominated by small, privately owned shops and hawkers and was largely community based (Kalhan 2007). This sector where almost all of the retail trade occurs is referred to as the unorganised sector. It employs 40 million people and contributes 10% of the gross domestic product (Kearney 2007). Over time, India has acquired about one retail outlet per 100 people, perhaps the highest retail density in the world. In metropolitan centres, modern and organised retailing has also had a large cooperative segment (encouraged by public policy in the 1960s to combat profiteering by private traders).

Wholesale food and grocery markets, consisting of private agents, have also been regulated and shaped by policy for the benefit of farmers and consumers from district-level upwards in the form of agricultural produce and market committees (APMCs) or mandis (wholesale markets). Parallel to the private sector is a large publicly funded procurement and distribution system (PDS), retailing through outlets called "ration shops" where subsidised foodgrains are sold. Rapid developments are occurring under the influence of globalisation and FDI in corporate retailing (Frontline 2007). Over the past decade, the sector has increasingly scaled up, with national and local capital leading the way. Many well-known large business groups like Reliance, Tata, Birla and many lesser known ones like Pantaloon Retail, Subhiksha, Spencer's Retail, etc., have successfully attempted entry into the sector in supermarket and hypermarket formats. Retailing in India is emerging as one of the largest industries, with a total market size of \$ 320 billion and growing at a compound annual growth rate of 5%. India has been ranked as the most attractive market for global retailers to enter now according to K T Kearney's Global Retail Development Index for 2007, which ranks 30 emerging countries on more than 25 macroeconomic and retail-specific variables (Kearney 2007). In India, food items and groceries account for 70% of the retail pie. Only 0.8% of this food and grocery market was in the organised retail in 2005 but given the big opportunity, investments in this segment and consolidation of the supply chain, the penetration of the organised retail is increasing rapidly. The growth rate of the organised food and grocery retail, which was 35.6% in 2005, increased to 42.5% in 2006 (Images F&R Research 2007: 74).

The penetration of the organised retail involves lobbying the government for changing regulation so as to enable greater access to real estate, greater corporate penetration of, so far, regulated wholesale agricultural markets and direct procurement from farmers. Significant inroads have been made in these directions particularly in the period after 1999 as is evident from the deregulation of various sectors

associated with retail, the repeal of the Urban Land Ceiling Act (ULCA) that made it possible for individual entities to hold large tracts of land and permissions for raising FDI limits in large real-estate projects. The agriculture policy statement of 2000 encourages corporate participation in a largely family-based agriculture sector and amendments to the Essential Commodities Act allows forward trading in these commodities. Many states have also passed a model Agricultural Produce and Market Act on the lines suggested by the central government.

India still has some restrictive regulation in retail (e.g. FDI in multiproduct retail is not allowed) but wholesale trade has been open to FDI for the past almost 10 years. The sector has also been witnessing rapid investment by Indian corporate entities. There are various estimates, and even today organised retail accounts for less than 6% of retail out of the present total market estimated to be at \$ 320 billion, which is expected to grow rapidly to \$ 1.5 trillion by 2025 (Time 2007). In anticipation of further liberalisation and growth in the sector, Indian business groups are expanding aggressively. FDI is already permitted in the wholesale trade sector (the German transnational retailer Metro has been in Bangalore in the cash-and-carry business for some years and is now entering Mumbai, the American Wal-Mart has also arrived albeit in the cash-and-carry format, and many single brand retailers like Nike, Reebok and Levis have been operating in India for the past 10 years as franchisees of global players). FDI is now permitted in single brand retailing up to 51% but not in multi-brand retail. Further, the deregulation of the local wholesale grocery markets has occurred under the Model APMC Act, which several states are in the process of enacting (since both agriculture and trade are state subjects) and further, liberalisation of FDI in retail liberalisation is expected.

The political debate in the country is alive to the impact of the liberalisation of this sector, particularly on the livelihood of small shops, hawkers and farmers. The need for regulation, as in the case of other Southeast Asian countries stems from concerns about the effect of corporate retail on efficiency (through its impact on competition), distribution (by its impact on small shopkeepers and hawkers and employment) and urban space.

A series of public protests (which turned violent in some instances) against corporate takeover of retail in India took place in 2007 as a result of which the government is now mulling over the possibility of setting up a retail regulator to level the playing field, monitor the sector for monopolistic practices, predatory pricing, abuse of dominance and issues concerned with cornering of expensive real estate in cities. The regulator will be authorised to take preventive action or refer the cases to the newly instituted Competition Commission (*Financial Express* 2007).

### **8.2.1 Competition Policy and Regulation**

Competition laws and enforcement are at the heart of retail regulation and they have been in a state of transition in India. The Competition Bill (2002) could not be implemented until September 2007 and then too in an amended form. The Com-

petition Commission of India could hold its first meeting only in March 2009 and the Competition Appellate Tribunal envisaged to deal with the legal wrangles in the Act is yet to be constituted. The number of supporting staff and technical experts appointed until now is insufficient. Sections 3, 4, 5 and 6 that deal with anti-competitive agreements, abuse of dominance and combinations are yet to be notified. At present the CCI is unable or unwilling to respond to rapid and profound changes in the retail sector. It undertakes market studies and projects as part of its advocacy mandate, and as of 31 March 2008, of the 16 research studies it had initiated, not a single one was on the retail sector ([http:// www.cci.gov.in](http://www.cci.gov.in), Approach Paper, Competition Advocacy).

Some of the issues discussed here pertain to the retail sector specifically and others to the fundamental difference in the spirit of the old and new institutional frameworks that deal with large business houses. First, consider the special problems with the retail sector where many changes are taking place constantly and interpretation along with implementation will have little precedence, expertise or case history to fall back upon. Section 4 of the Competition (Amendment) Bill 2007, regulates abuse of dominance. To prove dominance of a corporate retailer, particularly multiproduct retailer, would not be simple because corporate retailers deal with many products and many geographical markets. Their dominance in one geographical market may be used to enter new markets, and to do so they may use a combination of predatory pricing and high promotional expenditure. To prove that a retail firm indulges in predatory practices, i.e. that it is selling below cost price may be difficult if it has vertical agreements with manufacturers or suppliers, and doubly so if such suppliers are located in foreign countries. News reports also claim that manufacturers give discounts to large retailers which they do not give to smaller ones (*The Economic Times*, 19 March 2009).

Large-format corporate retailers are routinely found selling below the printed maximum retail price (MRP), which does not legally qualify as predatory pricing, i.e., selling below cost price. However, since they pay value-added tax on the basis of MRP they are bearing a loss similar to that incurred in predatory pricing to drive out competition from small and medium-size retailers in the market. A news report claimed that retail chains were able to maintain low prices and attract more customers in an inflationary scenario by offering low prices for essential food items and combo-offers (where products are bundled and effective price to the customer is lower than the wholesale price). Vertical agreements (Section 3(4)) are not presumed to be anticompetition but require a degree of proof and are to be judged on the “rule of reason” test, defined as a test, of whether an agreement will lead to an appreciable adverse effect on competition. “The spurt in food prices, particularly in retail prices which are proportionately surging ahead of wholesale prices (cereals, pulses, vegetables and fruits) over the last two years is being attributed among other factors to hoarding and the emerging dominance of multinationals in agribusiness, and corporate retailing” (*The Hindu* 2002; Frontline 2008).

Another aspect of the law on predatory pricing is that the distinction between low prices, which result from predatory behaviour, and low prices, which result

from legitimate competitive behaviour, is very thin and hard to determine. To determine these costs, they are required to be constructed on the basis of inputs, and profit margins via mandatory and effective cost auditing. Such cost-related data must be available for scrutiny. Predatory pricing considered only as an abuse of dominance is also a limited interpretation because multinational corporations or other firms making an entry into the Indian markets are not dominant when they practise predatory pricing. These different aspects of interpretation are relevant at the retail end of the market where global retailers are using predation and location as the main tools of entry.

Similarly, Section 3(3) mentions four types of horizontal agreements among enterprises involved in the same industry to which per se standard of illegality will be applied. However, corporate retailers in medium and large formats may have horizontal agreements with property developers (two different industries) that elbow out other retailers particularly smaller ones in geographical zones.

Mergers are another mechanism by which Indian and global retailers will consolidate their position. The initial proposal in the 2002 law asked for mandatory review of proposed mergers that would create entities exceeding a certain threshold level of assets or turnover. This faced tremendous criticism from business lobbies, and was diluted by making premerger notification voluntary. The Amendment Bill 2007 makes it mandatory for persons and enterprises entering into combinations to give notice of intent to the CCI. Section 5 deals with mergers, acquisitions and amalgamations. According to Bhattacharjya (2001: 4712):

Lack of expertise is likely to create special problems for merger review, which was deleted along with most of Chapter III of the Monopolies and Restrictive Trade Practices Act (MRTPA) (dealing with concentration of economic power) by the 1991 amendment, and is now being reintroduced in the new Bill after an unsatisfactory compromise.

He continues:

But the Bill also allows the commission to look post-facto into a merger for which approval was not sought in advance, and to undo or modify it if it sees fit. This unscrambling of firms' assets is likely to be a hugely costly operation, for which there is no official expertise thanks to the non-enforcement of Sect. 27 of the MRTPA.

Further, he says:

Expertise is lacking even for ex ante evaluation of mergers, which has not been possible since 1991. Even prior to that, it was focused more on preventing the concentration of economic wealth rather than market power, and mergers were usually sanctioned or denied by the government (on grounds that can well be imagined) without reference to the MRTPC. This was part of the discredited 'licence-permit raj' (ibid).

Modern merger review requires a careful balancing of the anticompetition effects of greater concentration against several possible efficiency gains, with the merging firms obviously keen to exaggerate the latter. Therefore, merger review may even have to be kept in abeyance for the time being in the case of domestic firms competing with much larger multinational firms.

## 8.2.2 *Competition Law in India*

Overall, the new Competition Act 2002, which is designed to replace the MRTP Act 1969, has a distinctly different spirit and requires a different level of expertise to ensure implementation. The MRTP Act was the product of an ideology that made the socialist pattern of society a desired objective of social and economic policy (Khurana 1981). It was passed in 1969 to ensure that the operation of the economic system does not result in the concentration of economic power to the common detriment, and dealt with monopolistic practices, restrictive practices and unfair trade practices. The provisions for control of unfair trade practices were added in 1984, but in the post-1991 period of liberalisation of the economy, provisions relating to concentration of economic power were deleted by omitting Part A of Chapter III of the Act. Only the powers to order division of undertakings and severance of interconnected undertakings were retained but even these were never used. The MRTP commission itself was virtually put into cold storage and only cases relating to unfair and restrictive practices were heard. Nothing highlights the state of neglect of competition policy in recent times as much as the fact that while the commission held 44 cement companies guilty of cartelisation between February and April 1990, and began an inquiry in October 1990 it only gave its verdict 17 years later. And even then it could only direct the firms to desist from the practice. Repeated threats have been recently issued to the steel and cement cartels in India by the prime minister and the finance minister for fixing prices and raising them to cause cost-push inflation. The situation should have been within the purview of the MRTP Commission. Despite the seriousness of the issue in an election year, neither the new Competition Commission nor the other state agencies were able to generate the requisite proof and make a case for effective intervention.

The new Competition Law and CCI do not aim to limit the concentration of economic power or to control monopolies directly but aim at (1) prohibiting anti-competitive agreements, (2) prohibiting the abuse of dominance and (3) regulating combinations. Both cover the usual three areas with a much more post-World Trade Organisation orientation and avoid areas such as monopolistic pricing and “unfair trade practices”, which are now part of consumer protection law. Unlike earlier under the MRTPC, when although 26 predatory pricing inquiries were instituted from 1970 to 1990, only two cases were finalised and desist orders were passed; anticompetitive practices such as predatory pricing are now more clearly defined. These laws are of great significance in the retail sector where corporate retail uses a combination of predatory pricing, high advertising and promotional expenses as standard competitive strategy against smaller players. The law defines predatory pricing comprehensively as “any agreement to sell goods at such prices as would have the effect of eliminating competition or a competitor”. By 1990, the definition of predatory pricing had evolved to include an “understanding by even a single seller to fix prices below appropriate measure of cost for the purpose of eliminating competition in the short run or reducing competition in the

long run". The subsection of the law was also used to deal with cheap imports in the 1990s. The availability of evidence of actual cost and the intention to eliminate competition thus became critical to prove predatory pricing as required under the new law. Proof of selling below cost and malafide intent, however, requires inspection of internal documents and cost auditing, which is difficult, more so in the case of firms located abroad. There is also disagreement about which cost should be taken into account—the marginal cost, average variable cost or the average total cost.

The other serious lacuna is the absence of adequately trained and experienced judicial staff in matters pertaining to interpretation of new competition policy in all its complexity. "The multifarious criteria (13 each for determining dominance and the anti-competitiveness of mergers!) are often subjective, contradictory or vague, and will be open to varying interpretations, leading to inconsistent verdicts and unnecessary harassment and business costs" (Bhattacharjea 2001: 4711). The MRTPC has been the regulatory authority since 1969 but it had little experience or expertise in dealing with the post-WTO global economic order, the multinational firms incorporated outside its jurisdiction or free imports. It is in the process of being phased out and will be fully replaced by the Competition Commission by the end of 2009.

It is worth noting that even as early as 1965, despite the declared intent of preventing concentration of economic power there was an understanding that rapid industrialisation would lead to even greater concentration of economic power (MIC 1965). Throughout, key powers always lay with the government through its licensing policy and not with the MRTP Commissions. It did not have any powers to pass orders to control such concentration but could only prepare reports for the government, which were not binding. It was the same with the law regarding monopolistic practices. Besides the MRTP Commission and the government, no private individual or party could initiate an inquiry. Hence, hardly any cases dealing with monopolistic trade practices (Singh 2000) were taken up. This point labours the fact that now hardly any legal expertise exists to deal with the issue, and no firm expects to be curtailed for monopolistic practices in India. The new commission will inherit most of the investigative staff, lawyers and possibly some of the members of the MRTPC for lack of an alternative expertise pool.

"Of all the contentious issues that are being debated by members of the World Trade Organisation, the relationship between trade and competition policy is probably one of the least understood in India. While there has been extensive discussion of trade liberalisation, and also the newer issues such as intellectual property rights and agricultural subsidies that came on board during the Uruguay Round, competition policy has been on the international agenda for too short a time for its significance to be appreciated" (Bhattacharjea 2001: 4710).

As a result, "The United States Trade Representative's (USTR) latest Report on Foreign Trade Barriers (2001), which invariably comes down hard on any policy that impedes market access to American firms, actually ends up exonerating India on this score" (ibid: 4711). But it goes on to say that both state-owned and private

firms in India engage in most kinds of anticompetition practices with impunity. The emerging situation does appear to be a free for all. Hence, despite the recent improvements in the law, the dormant state of the competition policy and its implementation remains a matter of central concern. This may also be a deliberate ploy to attract foreign investments.

In this entire transition phase of policy, large-format multiproduct corporate retailers and their different size formats are in the process of acquiring real estate and dominant positions in geographical areas within and around dense metropolitan zones and smaller cities, elbowing out small and medium-size shops (Kalhan 2007). Events on the ground are racing ahead of regulatory adaptation, so much so that competition from the small and medium type retailer in the sector may be whittled away before regulation strengthens and recognises the fact. If the new competition law is meant to protect, promote and sustain competition and protect the interest of consumers in markets, by implication it needs to protect the small and medium-size range of competitors in every geographical zone. It is worthwhile to make comparisons here with the structure and response of the anticompetition law in Germany.

### **8.2.3 Urban Planning**

The state of urban planning in India is such that there is as yet no ceiling on the size or number of retail outlets that may be started in a designated commercial zone, once some basic criteria of breadth of road is complied with. The ministry of urban development at the central level has no jurisdiction over urban area planning in the states except in the case of exceptional laws pertaining to the coastal regions, forests, the Delhi region and union territories. Urban local bodies also undertake town planning, regulation of land use, planning for economic and social development and so on. Urban development departments at the state level frame development control rules for cities but these are implemented by the local government authorities. In the metropolitan regions there are multiple agencies involved with this function creating the usual problems of coordination and control. The state-level planners have, as yet, not concerned themselves with the issues specific to large-format retail, their desired number per unit of population and the effect on scarce urban space and energy. The impact on traffic, congestion and local communities has also not been factored in. Hence, the construction of large- and small-format corporate retail outlets is growing at a rapid pace and some of the largest, most expensive real-estate deals in the metropolitan centres in the recent past are being made by corporate retailers.

### **8.2.4 Relevant Labour Laws**

In India rules governing working hours and the opening hour are yet to be put in place. Large-format stores commonly remain open for 10 to 11 h, including on

Sundays. This puts extreme upward pressure on the effective working hours of their workforce. Each state has its own shops and establishments law, which defines the rights and obligations of employees and employers. They also include rules pertaining to working hours, closing and opening time, guidelines for rest, holidays, overtime, casual leaves, sickness and maternity benefits, employment of children and women, and employment and termination in general. Registration, notice of dates of commencement and closure of operations are mandatory.

The workers in corporate retail are better off than their counterparts in small shops since their larger number under one roof makes it easier for them to unionise, they have written wage contracts (to some extent higher wages) and benefits like employee state insurance and provident fund entitlements. However, the prospects of the continued on-the-job training and upward mobility are extremely limited. Since they are also more educated, usually up to secondary and high school levels, this is an important issue. Some sorts of unions have begun to emerge in the sector and they negotiate working hours and bonuses.

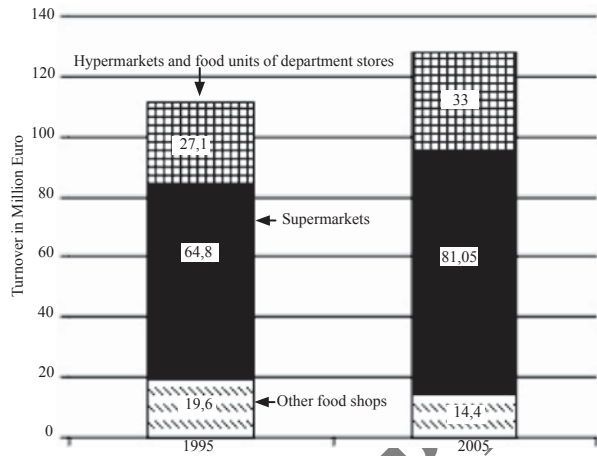
### 8.3 Retailing in Germany

The development of retailing in Germany since the Second World War needs to be understood in the context of state policy to encourage corporate retail and release scarce labour from the retail sector (it is useful to remember that in India the core issue is providing jobs and not releasing manpower). The main feature of the structural change in German retailing since the 1950s was the shift from predominantly mom-and-pop stores towards service stores and later still to self-service stores. These self-service stores were bigger and sold goods at lower prices. However, they were still smaller and more expensive than the supermarkets, which were becoming popular towards the end of the 1960s. On average, the supermarkets now have over 700 m<sup>2</sup> of sales space and offer a greater variety of goods. They have mostly replaced the smaller self-service shops (Kulke 1992: 968). The size of the shops, however, continues to change: starting from the small mom-and-pop stores (142 m<sup>2</sup> in 1995) to supermarkets (701 m<sup>2</sup>) and towards very big hypermarkets (2013 m<sup>2</sup>) (Wortmann 2003: 2). In the middle of the 1960s, hypermarkets started to increase their market share, reaching 25% in the middle of the 1980s (Kulke 1992: 968 f). While the number of shops is shrinking, the size of retail space and the total turnover are still growing (see Figs. 8.1–8.3).

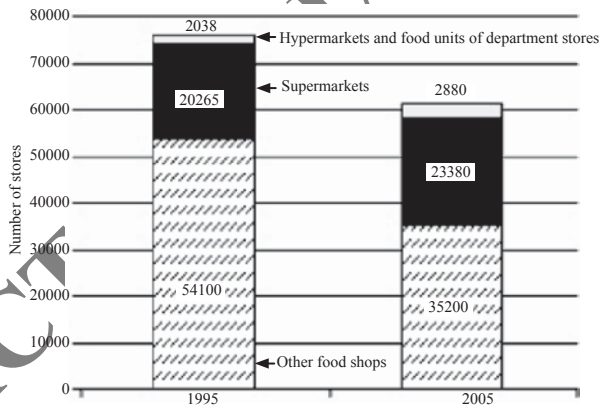
There is a strong connection between this trend and the ongoing concentration. This concentration is partly promoted by a strong competition and the merging of companies—a trend common to all developed countries—although the prevailing circumstances and the speed of the development are different and different variations of the same developments can be observed. Thanks to the concentration in food retailing, the power that the food retailers have over the suppliers has grown significantly (Wortmann 2003: 3).



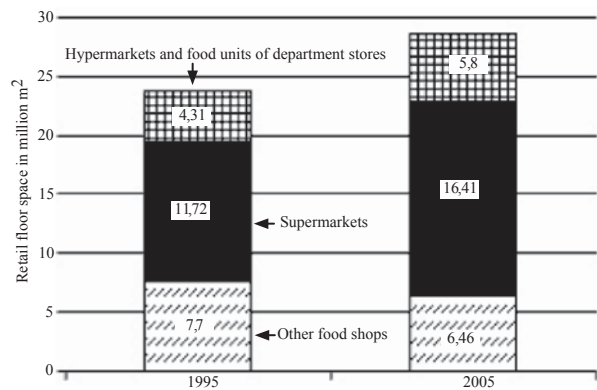
**Fig. 8.1** Turnover of food retailers in Germany, 1995–2005



**Fig. 8.2** Number of food stores in Germany, 1995–2005



**Fig. 8.3** Retail floor space in million m<sup>2</sup> in Germany, 1995–2005



Along with the concentration of retailing in Germany comes a tendency towards vertical integration of retailing and wholesale trade. This vertical integration had already widely progressed by the 1970s. The majority of German shops are part of an affiliated group of companies or an enterprise group who are doing retailing and wholesale trade. Only 11.5% of the retailing is done by nonintegrated retailers. A notable feature of German retailing is that many of the big retailing enterprises are family owned, to name some: Aldi, Lidl and Tengelmann (Wortmann 2003: 4). Another speciality of retailing in Germany is the presence of cooperatives, initially formed at the end of the nineteenth century when small retailers federated to concentrate their procurement to get better prices (Wortmann 2003: 4).

During the last decades, the law in Germany changed several times in reaction to the changes in the retail market, especially changes in the retail formats, impact on urban space, economic concentration within the sector and impact on supply chains and the possibility of anticompetition agreements and behaviour. Control of the developments was attempted via laws for protecting competition, limiting opening hours and urban planning laws to deal with the environmental impact. While there is an ongoing liberalisation concerning the competition law and the opening hours, the urban planning regulation has become partly more strict—at least in some of the German federal states.

### **8.3.1 Competition Law in Germany**

The German laws against restraints on competition (Gesetz gegen Wettbewerbsbeschränkungen—GWB) and against dishonest competition (Gesetz gegen den unlauteren Wettbewerb—UWG) include some important restrictions for retailers. In a nutshell, the GWB forbids, with only very few exceptions, sale of goods below production costs. A strategy to win customers based on such so-called loss leaders, which is popular in the USA and Great Britain, is not possible in Germany (Knorr and Arndt 2003: 18). This legislation was one of the main obstacles that Wal-Mart came up against in Germany.

The German law against restraints on competition (GWB) is controlled by the Federal Cartel Office (FCO-Bundeskartellamt) and in cases which have only local or regional significance by the competition authorities of the different German states (Landeskartellbehörden). The FCO is an independent federal authority, and is assigned to the federal ministry of economics and technology. The FCO's decisions are the results of a process similar to judicial proceedings. It is made up of decision divisions, which exist for each economic sector, and are assisted by the general policy department, which provides advice on special competition law matters and coordinates cooperation with international competition law. The Federal Cartel Office is authorised to investigate and penalise on its own. The Wettbewerbszentrale (restriction of competition), discussed below, has judicial powers to initiate legal action in case of infringement of the law. Penalising, however, is done by the judicial system.

Regulation for fair competition has had a long history in Germany. The Unfair Competition Act was passed in 1912 and a powerful monitoring body (Wettbewerbszentrale UWG) was set up to promote self-regulation. Stakeholders are authorised to invoke the statutory law in case of infringement of competition rules, the recognised stakeholders being competitors, certain trade associations, chambers of commerce and consumer associations. As an association of companies and trade associations from all sectors of industry, its aim is the advancement of trade, industry and commerce. Its members include all chambers of commerce, most trade corporations, about 600 other industrial or commercial associations and approximately 1200 companies. It has a head office in Bad Homburg and six regional branch offices. They deal with over 20,000 complaints per year. The Wettbewerbszentrale also gives advice to its members regarding the regulations. The sheer number of complaints it receives indicates the level of supervision required to establish a level playing field.

Wal-Mart entered the German market in 1997 and wound up operations in 2006. One of the reasons it was forced to leave was its conflicts with German regulations. Wal-Mart was doing business in the highly concentrated but competitive German food retailing market (the top five chains account for 80% of the sales), using its usual superstore retail outlets, which have an assortment of department store goods and groceries. Aldi and Lidl were its two main German competitors in the grocery segment. In May 2000, in an effort to gain market share, Wal-Mart reduced its prices for basic goods like milk and sugar below cost price making them in effect its loss leaders. The promotion continued for three weeks. Aldi and Lidl responded by doing the same. The price for milk and sugar fell by 43% per litre and 75% per kg, respectively.

The FCO opened investigation under Section 20(IV) (2) of the law against restraints on competition (GWB). This section to date has been applied only to consumer retailing, but can be extended to other retailing and wholesale trade as well. The relevant section of the law prohibits business with superior market power in relation to small and medium-sized competitors from pricing below cost, except when such pricing occurs only occasionally and there is an objective justification for the pricing scheme. The FCO's investigation against Wal-Mart, Aldi and Lidl found all three guilty of violating the relevant sections of the GWB. The focus of German law against unfair competition is on the protection of smaller German businesses (competitors); hence, it encompasses predatory pricing. Clearly, it was not possible for Wal-Mart to follow the same strategies as in the USA. It was accused repeatedly of violating German regulations and fined. Wal-Mart did not fulfil the obligations of the Handelsgesetzbuch (German Commercial Law), which obliges all joint stock companies to disclose basic information about their accounting system, including a balance sheet and an annual profit and loss statement (Knorr and Arndt 2003: 25).

In another case in 2006, the two big German supermarket chains EDEKA and Tengelmann wanted to merge their discount units NETTO and PLUS. NETTO has 1100 and PLUS 2900 discount super-markets in Germany. The FCO started an investigation about the market situation and the possible role of the new market player. In 2008, it refused permission for the merger. The reason was the dominant

market position that EDEKA would have reached as a 70% owner of the new chain. The FCO referred to the monopoly situation that would have come into being at a lot of destinations in Germany, should the merger take place. Furthermore, the company would develop a lot of power over the suppliers because of the high market share. However, the discussions between the companies and the Bundeskartellamt are still on, and it is possible that the FCO will allow the merger with some restrictions. For example, it could ask EDEKA to sell some of its shops to a competitor.

Again, in 2007, the “do it yourself” store Praktiker brought out an advertisement claiming that its product was cheaper than that of its competitor, OBI. OBI sued for libel. Praktiker was convicted and ordered to stop the advertisement because it was not generally cheaper than OBI.

The political will, social capital, institutional arrangements and expertise developed over a 100-year period to deal with the expansion of monopoly capital in different sectors that is clearly noticeable here are absent in India.

The following section attempts to put the German competition policy in context. Germany has a highly concentrated retail market particularly for food; yet the food prices in relation to income are among the lowest in advanced industrial countries. The range of regulatory mechanisms in place will be highlighted and juxtaposed with those in India. The law against dishonest competition (referred to as unfair trade practices in India) forbids a number of marketing practices, which are regarded as dishonest. These include misleading statements or advertisements about business circumstances, especially the nature, origin, manner of manufacture or the pricing of goods or commercial services or the size of the available stock.

In a recently reported case in India, a leading corporate retailer, Subhiksha claimed in advertisements that its prices were the lowest compared to rivals such as Big Bazar, D-MART and Apana Bazar, etc. Big Bazar filed a case against the advertisements and the Advertising and Standards Council of India is understood to have given its verdict in April 2007. However, the verdict has not been made public as yet!

### **8.3.2 Labour Laws and Opening Hours**

Until 2006, shops in Germany could remain open for a maximum period of 80 h per week—among the shortest in Europe (Knorr and Arndt 2003: 18). They were strictly forbidden to remain open on Sundays and holidays. This legislation was specially meant to help small traders, as lack of staff forces them to remain open for shorter hours. In 2006, the legislation for shop opening hours was liberalised though there are different laws in the different German states. In most parts of Germany, it is still not possible to keep shops open on Sundays.

The working hours of employees in retailing are regulated in wage agreements, which are negotiated between the trade union and the federation of employers in retail. Each federal state of Germany has its own special wage agreements and normally the working hours extend to 37.5 h per week.

### 8.3.3 Land-Use Planning Laws

For a long time, urban planning regulation was the main tool used to control the retailing trade. It was assumed to be sufficient to guarantee the integration in a sound urban development (Schmitz and Federwisch 2005: 18). In 1968, a regulation was introduced to protect the medium-sized retailing companies in Germany. The instrument used for this was the legislation for urban planning (Baunutzungsverordnung—BauNVO). In the heavily urbanised areas, only shops with a maximum floor area of 1200 m<sup>2</sup> are allowed—this means a retail space of 700 m<sup>2</sup>. Furthermore, there are limitations to the assortment of goods that shops built outside of the cities are allowed to sell. This political protection for medium-sized retailing companies was also helpful for the discount shops of the big retail chains—as they have normally relatively small floor areas (Wortmann 2003: 8). During socialist times, out-of-town development was forbidden in East Germany. Following the reunification in 1990, former West German planning policies were adopted in East Germany. However, there was a temporary lapse that allowed the fast development of large retailing sites in off-centre locations (Poole et al. 2002: 174).

Poole et al. (2002: 175) identified size controls as “the most prevalent policy tool (for retailing in Europe), with the exceptions of Britain and Holland and the absence of strict planning controls in Eastern Europe”. Furthermore, the variations in the timing of initial legislation have strongly affected retail development in Europe: while it was introduced relatively early in Belgium, France, Germany, Italy and the Netherlands, it came into force in Britain, Portugal and Spain later, and has still not been introduced in some eastern European countries.

During the 1980s, the regional planning regulation became progressively more important for the control of the development of the retail sector. The reason for this was the growing size of retail projects outside of cities, sometimes at the highways between two municipalities, more or less in the middle of nowhere. These developments not only mean strong competition for the retailers inside the city, they can also be an obstacle to the complete development of the affected cities. This is why the federal states started to include regulations for the establishment of big retail projects in their regional planning documents. When municipalities allow big retail projects, they are scrutinised to ensure that they meet the requirements of regional planning. Neighbouring municipalities can complain against violations. However, these kinds of complaints are rarely successful as the neighbouring municipality has to prove that its rights are being violated.

In 2004, the position of the neighbouring municipalities was strengthened by a new law that was introduced to bring the German building law in tune with European regulations (Europarechtsanpassungsgesetz Bau—EAG Bau). New big retail projects are now checked to assess their influence on the local supply. Investors in retail have to prove that their project will not end up affecting retail shops in the same or neighbouring municipality in a way that the local supply of food and other goods will be impaired, and smaller shops in the neighbouring municipalities will not close down due to the new competition (Schmitz and Federwisch 2005: 18 ff). Some of these features have been adopted by emerging market economies in South-east Asia as mentioned earlier.

## 8.4 Conclusions

Comparative experience suggests that first, the economies of scale and scope drive the sector towards very rapid growth in terms of size of outlets and dominance in geographical and product markets. Second, this raises issues of preservation of genuine competition in the relevant product and geographical markets. Third, the dominance of corporate retailers has consequences for the manufacturers, wholesalers and other dealers in the supply chain who face a loss of alternative marketing/retail outlets as monopolies emerge. Finally, the growth of large-format retail raises serious issues for the urban environment and town planning in dense and rapidly urbanising countries such as India.

Some studies of the global supply chains and retailing systems indicate the failure of regulatory policy in dealing with the growth of monopoly power in what has been described as particularly adverse outcomes for the world food system. “We might want to put our faith in various ‘competition and anti-trust commissions that exist in various countries to prevent the formation of such monopolies but such faith would be misplaced...’. On the grounds of efficiency, economies of scale and Darwinian justifications consolidation is progressing steadily” (Patel 2008). If the rate of consolidation is tracked within the range of food business after 1980 for instance, in the US market in terms of the market size of the top four corporates in each of the food subsectors, then the concentration ratio has risen rapidly across poultry, beef, seed, pesticide but most steeply in retail. Market concentration has led to higher prices of food in 24 of 33 sectors in the USA. As agricultural economist Robert Taylor testified to the Senate Agricultural Committee in 1999: since 1984 the real price of a market basket of food has increased by 2.8% while the farm value of the food has declined by 35.7%. This has consequences for farmers too (Taylor 1999).

Much of the Indian retail trade (particularly grocery) still has traditional features: small family-run shops and street hawkers dominate the situation in most of the country. However, the retail trade in India is now undergoing an intensive structural change, which could cause irreversible damage to local commodity supply chains and competition. The existing regulations are not adequate to fulfil the new requirements. India can learn (and perhaps forestall loss of genuine competition and product variety) from the experience of Southeast Asian countries, which are improving regulatory frameworks and some advanced retailing economies like Germany, which are already considered more successful regulators in this sector. German competition policies in content and implementation are significant for India to the extent that they are different from other advanced retailing countries such as the USA and UK. German policy now proactively aims to preserve small and medium competitors in the retail sector. Similarly, German and other Southeast Asian urban planning and restrictions on large-format retailing are important. Indian cities are dense and unplanned. It is clear that land use laws/zoning laws are not the most commonly used regulatory devices against large-format retailing and at present the land use laws in urban centres are in the most pliant condition since the local governments implement them and they are most susceptible to omission and commission on behalf of real-estate developers who, in turn, share a common interest with corporate retailers. The big retailers look out for large tracts of real estate and the

presence of such retailers increases the price of the real estate in the neighbourhood generally. It is routine to periodically regularise unauthorised colonies or projects. Lax regulations and poor implementation is a feature of India's underdevelopment.

The German experience is also distinct from the Indian one because Germany moved rapidly into corporate retailing in the face of labour shortages while in India the situation is quite the reverse: agriculture and retail are two large employers of unskilled labour and both are simultaneously in the process of expelling labour in the context of overall high levels of unemployment.

Popular resistance from traditional retailers has forced the Indian government to prolong the ban on FDI in retail (*The Hindu* 2008). FDI in wholesale and the growing involvement of Indian corporate firms in retail is consolidating the hold of big business in the retail market the recent economic slowdown notwithstanding. The recent slowdown has affected the organised retail sector adversely, and halved its growth projections but it is inducing a spell of consolidation, mergers, technological upgradation and vertical integration.

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RETRACTED CHAPTER



**Part III**  
**Foreign Direct Investment in Retail**  
**and Implications**

# Chapter 9

## Role of FDI in Multi-brand Retail Trade in India and Its Implications

Sukhpal Singh

### 9.1 Introduction

In developing countries, food supply chains, especially the perishable produce chains are seen as inefficient in comparison with those in the developed countries. This leads to policy prescription on the improvement needed and role of foreign direct investment (FDI) to deal with the problem of lack of adequate capital in domestic economy and nature of local players which are small and capital deficient (Bijoor 2011; Mookerji 2011). In India too, this kind of analysis of fresh fruit and vegetable chains has led to arguments for FDI in retail trade in the past few years. As a result, the Government of India in November 2011 allowed majority (51 %) FDI share in multi-brand retail trade (MBRT) enterprises and up to 100 % in single-brand retail trade (SBRT) entities. This was protested by different stakeholders in the sector and the government had to withdraw the cabinet decision on MBRT for the time being which was reintroduced in late 2012. The issue of FDI in retail trade has been hanging fire for the past 15 years ever since 100 % FDI in wholesale cash 'n' carry trade was permitted in January 1997 on a case-by-case basis. After that, the N K Singh Committee on FDI in retail trade in 2002 suggested the ban to be continued, which led to the 10th plan dropping the proposed recommendation on FDI in retail trade. Metro—a German supermarket chain—was the first one to enter India as cash 'n' carry wholesaler in 2003 with a store in Bangalore. Then in early 2006, 51 % FDI in SBRT was allowed. Since 2007, all the major wholesale cash 'n' carry players such as Walmart, Metro, and Carrefour have set up shop in India and have multiple outlets ranging from 2 to as many as 14 (Mookerji 2011). Reliance Retail—an Indian corporate—has also made an entry into wholesale sector with a

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store “Reliance Market” in Ahmedabad in 2011. Global retail chains have also been present in India in retail through licensing/franchising arrangements, for example SPAR (global supermarket with more than 12,000 stores in 33 countries) has a licensee—Max Hypermarkets of Dubai-based Landmark Group with ten stores in India (Images Retail, December 2011). On the other hand, domestic corporate players have been present in supermarket retail since the early 2000s with hundreds of stores each, especially in the southern and the northern Indian cities, though most have shut shop in the western Indian cities (Table 9.1). In food and grocery segment, in 2011–2012, the Future Group of Kishore Biyani with four different formats (Big Bazaar, Food Bazaar, KB’s Fair Price, and Food Hall) was the largest player followed by Reliance Retail with three formats—Mart, Super, and Fresh (Images Retail, June 2012).

The conditions for 51 % FDI in MBRT in the policy included minimum investment of US\$ 100 million by each player, 50 % of it in backend infrastructure, 30 %

**Table 9.1** Major food supermarket chains in India. (Source: Singh and Singla 2011. The Future Group owned Food Bazaar and food hall outlets also sell fresh fruits and vegetables (FFV) and the group’s annual sales were 1.75 times that of Reliance Retail in 2011–2012 (Images Retail, June 2012))

Supermarket chain	No. of stores in India (in Bangalore)	Owned by	Parent ownership structure
Reliance Fresh	886 (47)	A division of Reliance Industries Ltd.	A highly diversified conglomerate founded by Ambani family and now owned by Mukesh Ambani
More	655 (61)	A division of Aditya Birla Ltd.	A highly diversified conglomerate founded by the Birla Group. Entered retail with major acquisition and takeovers of 275 Trinethra and 68 Fabmall in South India
Spencer’s	241 (21)	A division of RPG Ltd.	A highly diversified conglomerate funded by the Goenka family. Present since the 1990s
Fresh@	75 (20)	A division of Heritage Foods Ltd.	A dairy and food processing company funded by the Naidu family of Hyderabad. Diversified into retailing. As of 2009, only in South India
Foodworld	67 (42)	51 % owned by a private consortium of Indian investment banks; 49 % by Dairy Farm International	Dairy Farm International is a Hong Kong retail giant. Until 2005, the 51 % Indian interest was held by RPG and managed alongside Spencer’s. As of 2009, only in South India
Namdhari Fresh	25 (18)	Namdhari Seeds Group	High-end stores with salad bar, carry organic range also
ITC Choupal Fresh	6 outlets	ITC Group of Companies	Focus on fruits and vegetables (F&V)

procurement from micro, small, and medium enterprises (MSMEs), and the government right to procure the farm produce first. But, MBRT players were allowed to sell perishable products such as fruits and vegetables (F&V) as “unbranded.” Further, the permission for MBRT was granted for cities with population of one million or more, which covered 53 cities in India. The power of the state governments to decide on FDI in MBRT in their states, which was initially said to be taken away, has been retained. In this context, it is important to understand the implications of FDI in food retail for various stakeholders as it is being permitted in the name of farmers, supply chain efficiency, and employment generation. The three important questions to be asked on the issue of FDI in retail are: does it really help farmers or more importantly small farmers who are 85% of all cultivators in India? Does it improve efficiency of food supply chains and help lower food inflation which India is presently grappling with? And how does it impact traditional food retailers’ livelihoods? These questions are important to examine as the Ministry of Commerce and Industry placed full-page adverts in all national newspapers to defend and justify the decision by highlighting the employment, the farmer, and the consumer benefits. The advertisement claimed that 10 million more jobs would be created in the farm sector and there would be no significant negative impact on traditional retail sector. It further claimed that the policy has distinct Indian imprint as unlike 100% in some other Asian countries, India only allowed 51% FDI, and, only 53 cities were covered under the provision and every state could follow its own policies and laws on FDI in MBRT.

This chapter tries to analyze the role of FDI in MBRT in terms of improving the efficiency of food supply chains in India and its implications for various stakeholders. It uses empirical evidence from the experience of domestic retail supermarkets and wholesale cash ‘n’ carry supermarkets as well as evidences from other developing countries to examine the role FDI can play. The chapter also examines various mechanisms which could be used to leverage the presence of FDI in supermarkets and explores the role of policy and regulation and institutions in promoting the small farmer interest in such value chains. Section 2 reviews the evidence on supermarket impacts globally; Sect. 3 examines the small producer dimension; Sect. 4 examines the traditional retail and employment aspect; Sect. 5 explains the inflation angle; Sect. 6 assesses some policy and practice mechanisms as safeguards, and Sect. 7 concludes the chapter.

## **9.2 Supermarkets and Primary Producers and Traditional Retailers in Developing Countries: A Review**

Three major issues of impact of supermarket on local economies include: market concentration and, therefore, producer and consumer interest; downward pressure on producer prices with higher costs and responsibilities; exclusion of small producers and impact on small local retailers. The procurement practices of supermarkets and large processors have a huge impact on farmers and present them with an im-

portant challenge. Through their coordinating institutions and mechanisms such as contracts, private standards, sourcing networks, and distribution centers (DCs), they are reformulating the rules of the game for farmers and first-stage processors (Reardon and Berdegue 2002). There is also supplier farmer rationalization due to the larger supplier preference of big retailers (Ghezan et al. 2002; Farina et al. 2005). Though supermarkets initially offered higher prices to producers than those offered by traditional channels, farmers incurred extra costs such as processing and packaging, marketing, transport, and other transaction costs unlike their counterparts in traditional channels (Cadilhon et al. 2006).

Supermarkets in Guatemala procured from a few specialized wholesalers that were partly “dedicated” to them in order to: (1) assure quality and consistency of delivery of product year-round, which the dedicated wholesalers could do because they had a large network of agents spread over several agroecological zones, (2) had a “one-stop shop” where they could source several types of produce at once, and (3) reduction in coordination costs as they had to deal with few intermediaries (Hernandez et al. 2007).

In Mexico, supermarkets procured directly from growers through their own DCs and contractual arrangements with growers. Supermarkets imposed their own (export) quality standards and practices for fresh fruits and vegetables (FFV) procurement such as consistent quality and delivery, refrigerated transport, deliveries before noon, and promotional discounts on produce. But still supermarkets bought 10–100% of FFVs via the Central Wholesale Markets (CEDAs) (local wholesale F&V markets) across products and supermarkets. These led to the emergence of new wholesalers-cum-growers-cum-exporters who not only displaced the traditional wholesalers but also guaranteed quality, appearance/presentation, and delivered the produce all round the year. There were new FFV wholesalers in the Mexico City CEDA who supplied the supermarket chains direct from the growing areas, without having to pass physically through either the CEDA or the DC (Schwentenius and Gomez 2002).

The supply chains of five supermarkets for FFVs in Africa and Asia, that is Alice in South Africa, TOPS and Thai Fresh United in Thailand, Hortico in Zimbabwe, and Homegrown in Kenya, were shorter, condensed, streamlined, and involved direct delivery to centralized DCs in contrast with traditional multilevel and fragmented marketing systems. The supermarket contracts with the producers varied from unwritten (in case of Hortico) to contracts with weekly price negotiations in case of Alice; and price and volume arrangements per cropping cycle in the case of Thai Fresh United. Producers performing more functions as wholesalers had been eliminated. Small producers were compliant as a result of public and private partnerships that included significant support to small suppliers in each of the five cases (Boselie et al. 2003).

SPAR in South Africa procured fresh produce from the surrounding area as compared to the centralized fresh product procurement and distribution systems of local competitors and other major retailer groups in South Africa. Commercial farmers supplied most (70%) of the supermarket’s needs for fresh produce. But, still supermarkets continued to procure from the small-scale farmers as they made deliveries

in frequent small volumes and fresh produce moved fast in the store. The pricing of produce was determined through negotiations that were based on market prices, quality delivered, and the supply and demand conditions prevailing in the market (Louw et al. 2006).

TOPS in Thailand had established a system of preferred suppliers around the “World Fresh” central distribution system which included direct purchase from the farmers, from wholesaler linked to farmers, from local supplying companies that bought products at wholesale market, importing products from abroad, and direct purchase at wholesale market. The highest average value was delivered through wholesalers (US\$ 115,000 per month), while quantities purchased directly from farmers were negligible. Five large vegetable suppliers delivered around 60% of the total turnover of the supermarket (Boselie et al. 2003).

Huacheng Supermarket in Nanjing, China relied on three different chains to source vegetables: Baiyunting wholesale market through which about 70% of vegetables for the supermarket were procured; contractual arrangements with Chaoda, an integrated vegetable company; and Jiangxizhou, a local farmers’ organization (Ruben et al. 2007). Small farmers in China were contracted by packers who in turn supplied to supermarkets. All packers had minimum farm size requirements, but the minimum was quite small (0.13–0.20 ha). Packers contracted with the help of local village leaders (Miyata et al. 2009). In Vietnam, farmer organizations had written contract with the supermarkets (Moustier et al. 2010). Local supermarkets in Madagascar procured F&Vs mostly from local, informal suppliers rather than from companies selling high standard vegetables. Local supermarkets did not value quality and standards sufficiently and were hesitant to engage in contracts. Thus, the high standards suppliers found the modern retail chains in Madagascar not yet interested in their products (Minten et al. 2009b).

In Indonesia, Hero, a large supermarket chain procured F&Vs through centralized procurement system and established its own preferred suppliers and private standards. Small-scale farmers, especially those with low levels of human and financial capital, supplied to such chains only when they were linked to preferred suppliers, who, in turn, ensured supermarket’s standards. Otherwise, small-scale farmers supplied part of their produce to relatively small domestically owned chains, albeit at a low price. The average share of farmers in gross value of produce in six vegetables, namely, cabbage, carrot, chili pepper, potato, shallot, and tomato, in traditional value chain was 35.4% compared to only 26% in the supermarket chain. However, the absolute prices received by the farmers for these vegetables, except tomato, were higher (69.8%) in supermarket channel compared to that in the traditional channel. But, the supermarket and its preferred suppliers cornered most of the value in modern chain channel (53 and 21%, respectively). Farmers preferred to sell to the modern retail chain because of lower transaction costs and assured purchase besides higher absolute price received (Chowdhury et al. 2005).

In Honduras, 57% of the farmers supplying the supermarket channel received higher price than the spot markets, compared to only 26% of farmers supplying the spot market. Farmers participating in the supermarket, on an average, sold 21.4% of the produce in spot markets. Ninety-six percent of the farmers supplying the

supermarket channel were members of a farmer organization, compared with only 56% of farmers supplying the spot markets. Further, farmers participating in the supermarket channel had a greater degree of trust in their buyers than farmers supplying the spot markets. Initially, farmers were reluctant to supply the produce to supermarket channel since they were paid 2 or 3 weeks after delivering the produce. However, through interaction with other farmers who were already participating in the supermarket channel and with the supermarket buyers over time, mutual trust developed that could even withstand delays in payments or rejections of the produce (Blandon et al. 2008).

### ***9.2.1 Farmer Profile and Benefits of Linkage***

In Guatemala, the supermarket supplying tomato farmers had higher farm size (9.3 ha) and cultivated area (4.6 ha) than the traditional market supplying farmers (7.8 ha and 2.5 ha, respectively). Supermarket channel farmers were more specialized in tomato production (91% of cropped land) than the traditional channel farmers (68% of cropped land). The irrigation coverage was higher among the supermarket channel farmers (50% of total area) than that among the traditional channel farmers (15%). Seventy-four percent of the supermarket farmers cultivated the crop twice a year compared with only 20% of the traditional channel farmers doing so (Hernandez et al. 2007).

In Kenya, supermarket channel farms were on average five times larger, in overall farm size, than traditional channel farms (9–18 ha vs. 1.6–2.4 ha per farm depending on the crop). Moreover, supermarket channel kale farmers had 75% area under irrigation compared to 18% in case of traditional channel kale supplying farmers. The supermarket channel farmers were also more diversified—producing twice the variety of horticultural crops compared to the traditional farmers, helping them to manage risk and reduce transaction costs for supermarkets to deal with them (“one stop shopping”). All the supermarket supplying farmers had cell phones as compared to only 30% in case of traditional channel supplying farmers. The supermarket farmers used more of hired labor than the traditionally growing farmers as evident from the fact that in case of kale production, 79% of the permanent farmworkers on traditional channel farms were family members, while for supermarket channel farms, 79% were hired employees. Further, traditional farmers had only the primary education while the supermarket farmers had a secondary education on an average. If farmers had drip/overhead irrigation, then it increased the probability of participation in supermarket channel by 46% (Neven et al. 2009). However, in case of green onions in China, contract growers had somewhat larger farms and more irrigated land (both differences were small but statistically significant at 5% level) than the noncontract growers (Miyata et al. 2009).

As an exception, Hortico in Zimbabwe had a supply base of more than 4000 small producers with an average farm size of around 2 ha. It had designed and operated

the supply chain with a view to integrate small producers. Small producers could provide the required care and had lower costs than larger growers. Furthermore, small producers had lower rejection rates for certain nontraditional vegetables than the large-scale growers. Hortico responded to changes in quantities demanded at short notice without any wastage since their supply base was spread over a large number of small suppliers organized into relatively small collection centers (CCs). In Thailand, TOPS had found that small producers were able to adapt to organic production methods since practices such as crop rotation and selection of resistant varieties were long established elements of traditional production system. The strategies were aimed at including small producers in supermarket supply chain involving partnerships between public and private sector stakeholders (Boselie et al. 2003). SPAR in South Africa procured produce from emerging small farmers as these delivered produce in smaller quantities, thus ensuring produce freshness. This helped the supermarket to build rapport among the farming community (Louw et al. 2006).

Supermarket supplying tomato farmers in Guatemala had 20% higher yield and 24% higher gross income/hectare compared with that of the traditional farmers but 36% higher costs in supermarket channel resulted into slightly lower net income (0.4%) than that in the traditional channel. Farmers preferred to sell to wholesalers due to procurement of all quantities and grades all round the year, low transaction costs and risk, and quick payment (Hernandez et al. 2007). The supermarket supplying contracted apple growers in China had 28% higher yields, 35% higher family labor productivity, and 28% higher per capita income compared to independent apple growers. The contract farmers earned 2.4 times as much from green onion production compared to noncontract growers. The total and per capita household income of the contract green onion growers was 32% greater than that of noncontract growers. About 53% farmers contracted with supermarket due to the stable or guaranteed fixed price and another 24% due to higher price offered by the packers (Miyata et al. 2009).

Members of farmer organizations supplying supermarkets in Vietnam were paid higher prices per kilogram than the nonmember farmers (43% higher for rice, 33% for litchis, and 67% for tomatoes). Although the production costs were slightly higher in case of member farmers (18% for rice, 2% for litchi, and 67% for tomatoes), the profits per kilogram of produce sold to supermarkets were also higher among the member farmers (65% for rice, 38% for litchi, and 400% for tomatoes). Further, in addition to higher prices, the main advantage of supermarket interface appreciated by the farmers was the greater degree of stability of prices compared to the traditional markets (Moustier et al. 2010).

In Kenya, average land productivity and average labor productivity were, respectively, 59% and 73% higher for supermarket channel kale farmers than for traditional channel farmers. Supermarkets paid the highest wholesale price for kale in the market (about 10–20% higher than traditional retailers), but only 34% of the supermarket channel farmers reported the higher price as the key reason for selling to supermarkets. Forty-six percent also reported lower transaction costs and



lower market risks in the supermarket channel as compared to the traditional market channel (Neven et al. 2009).

In Guatemala, percentage of growers who were provided inputs on credit by input companies was higher in case of the supermarket channel (83%) compared to that in case of traditional channel (71%). Eighty-one percent of the supermarket channel farmers also obtained technical assistance from the input companies compared to 62% of the traditional channel farmers (Hernandez et al. 2007). Hortico in Zimbabwe provided inputs in pre-weighted quantities on credit, which was funded in part by a revolving fund. If the value of the delivered produce was less than the input costs, the producer was given an interest-free loan for an agreed payback period (Boselie et al. 2003).

In South Africa, SPAR provided interest-free production loans up to 3 months to growers upon presentation and approval of a business plan which were deducted at the time of delivery of produce. Growers' farms were visited by SPAR technical personnel to ensure product quality standards. Further, supermarket required progress report from the farmers to enable SPAR personnel to provide management support. The supermarket developed a strong trust with farmers, though had only a verbal contract with the producers (Louw et al. 2006).

In case of TOPS in Thailand, another entity—World Fresh—trained the growers at farm level in applying good agricultural practices (GAP) and agents at other levels in the supply chain implemented hazard analysis and critical control points (HACCP) principles (Ruben et al. 2007). Global retail company, Lecofruit, which exported most of the vegetables from Madagascar to European supermarkets, had written agreement with the farmers and provided seeds, fertilizers, and pesticides as a part of the contract. The company deducted the cost of the inputs in kind from the crop sale proceeds (Minten et al. 2009b).

## ***9.2.2 Problems in Farmer Linkage***

In Mexico, though supermarkets paid their suppliers higher prices than did other buyers (such as the traditional wholesalers who operate in the public wholesale markets—CEDAs), the net benefit to the supplier was somewhat diminished by the strict quality standards and practices, making the organization of the process complicated for the supplier (Schwentesi and Gomez 2002). In Guatemala, more capitalized tier of small farmers enjoyed advantages with the supermarket channel, but incurred some entry costs that the traditional farmers did not face (Hernandez et al. 2007). Small producers in Thai Fresh United were required to change long-standing production practices, grow to precise quality standards, and implement specific production practices which sometimes resulted into higher rejection rates. Suppliers who failed to deliver 100% of the order had to pay for the short delivery of the produce against purchasing costs. Detection of excessive residue levels by the “World Fresh” laboratory could result in rejection of the produce and repeated defaults led to exclusion. Upon default on residue levels, suppliers were to prove

the quality of their next shipment with laboratory tests for which they had to bear the costs (Ruben et al. 2007). Homegrown required that all its suppliers should have toilet and washing facilities, a pesticide store, spraying equipment, and waste pesticide disposal facilities. For small producers with little or no access to credit, such an investment might be impractical and/or not economically viable. Furthermore, risks to small producers of producing to strict quality requirements were considerable. In case of Hortico in Zimbabwe, 40% of small growers incurred a loss on their first crop which, however, reduced to 15% during second planting as most growers adapted very quickly (Boselie et al. 2003).

In case of SPAR in South Africa, farmers did not coordinate their supply schedules which sometimes resulted in delivering the produce at the same time and oversupply on a specific day. The glut of produce made the supermarket to buy it at lower prices to ensure the clearance of the stock. The often cash-constrained emergent farmers started to make all the deliveries on Fridays, resulting in the oversupply. The retailer also secured loan repayment on these Fridays (the day of weekly payment for produce) by subtracting the amounts owed from the farmers' earnings (Louw 2006).

### ***9.2.3 Traditional Retail Impact of Supermarkets***

FDI in the modern retail sector in Mexico had accelerated the transformation of the sector as a whole by reducing the market share, productivity, and margins of traditional retailers. Moreover, these modern (transnational) retailers were better connected to global commodity chains, thus, importing more than their local counterparts. So, the net effect on the local producers was negative. The modern retailing sector was characterized by a low-skilled, unstable, and weakly unionized labor force. FDI flows in retailing had a negative effect on remuneration since wages in retailing were still far lower than the average wage in the economy (50%). In the context of aggressive competition among the main retailers, attracting skilled labor was less important than reducing costs in order to gain market share by lowering prices. Thus, FDI did not produce positive effects in terms of wages for workers. Significant backward externalities were also observed. Following Walmart's lead, local retailers had reorganized significantly by internalizing the distribution of goods within DCs, centralizing their purchases, and pursuing a permanent low-price strategy. Using new informational technologies, buyers had increased their ability to exert governance on value chains. These changes had affected local suppliers negatively, as they lost negotiating power and suffered higher pressures on their margins leading to the asymmetries between local firms, diminishing their capacity to learn and grow. Walmart even became the main contributor to the Mexican commercial deficit. The growing pressure of imports and the increasing governance power of retailers led to the elimination of some local suppliers and a concentration process in supply chains with a risk of immiserizing growth for the surviving firms (Durand 2007).

### 9.3 MBRT and Small Farmers

The most glaring aspect of the policy of FDI in retail trade in India is that there is no protection of farmer interest in any way. Unlike the so-called protection granted to MSMEs in terms of 30% procurement being mandatory from such enterprises, it is still not clear how it can be restricted to only Indian MSMEs given the World Trade Organization (WTO) trade-related investment measures (TRIMs) provisions may not permit this as this will violate the national treatment clause of the agreement.

One of the arguments for bringing FDI in MBRT is that it will help reduce wastages in the farm produce sector. Here, it is important to point out that this aspect of wastages is exaggerated as there is no absolute wastage and some wastage in perishable produce is inevitable. It is value loss across the chain as finally all qualities/grades of produce get sold in the market at some price. In fact, one of the corporates had planned to use a perishable produce such as tomato for different uses, that is, fresh produce sales in supermarkets, fresh produce sales in local markets, and for processing into paste. Further, wastages in major vegetables such as potato and onion, which account for large proportion of the total vegetable produce, are not more than 10–12% (Kumar et al. 2006) and only 10–12% in cabbage and cauliflower (Tables 9.2 and 9.3). Thus, only 10–20% of vegetable production is lost due to poor postharvest practices (Pulamte 2008) and some of it is inevitable as shown by the experience of domestic supermarkets. In fact, a latest study of the postharvest losses (PHL) reports only 6.8% losses in cabbage and 12.5% in tomato and 5.8% and 18%, respectively in fruits of sapota and guava. It reports only 6% PHL in wheat and black gram, 2.8% in cottonseed oil, and 10% in groundnut (CIPHET 2010). The PHLs were higher in case of fruits such as mango and pomegranate in case of distant marketing (20–35%) and about 15–30% in case of local marketing of such produce. Marketing efficiency (as a ratio) was the highest (2.13) in grapes followed by mango (0.85), banana (1.12), and pomegranate (1.01) (Murthy et al. 2009). Further, it is value loss not physical loss of produce as all grades of produce get sold at some price to different segments of the market.

Further, if the operations of domestic fresh food supermarkets in India and those of the global supermarkets are any indication, they will not make any difference

**Table 9.2** Postharvest losses (PHL) (%) in Uttarakhand in India in 2008–2009. (Source: Sharma and Singh 2011)

Vegetable	Postharvest	Including at retail level
Brinjal	11	17
Cabbage	5	9
Cauliflower	8	14
Capsicum	5	11
Onion	6	10
Potato	7	12
Tomato	15	23

**Table 9.3** Postharvest losses (PHL) in UP, Bihar, Jharkhand, and Orissa in 2000–2001. (Source: Verma and Singh 2004)

Vegetable	% PHL
Tomato	25
Chilly	5
Cabbage	10
Cauliflower	12

to the producer's share in consumer's rupee as claimed by many proponents of the liberal FDI in MBRT policy, other than lowering the cost of marketing of the producers, as supermarkets have CCs in producing areas, in contrast to the traditional Agricultural Produce Market Committee (APMC) markets (*mandis*) which are in distant cities. The supermarkets procure from "contact" (not contract) farmers without any commitment to buy regularly as they do not want to share the risk of the growers. Thus, the involvement of supermarket chains with producers in India is low and there is no delivery of supply chain efficiency as many of them have already wound up, for example, in Gujarat. None of them—domestic retail players as well as whole cash 'n' carry players—have made any significant back-end investments so far other than setting up small CCs in procurement regions and some DCs in cities/markets during the past decade. They have mostly focused on opening stores as a drive to capture market share, rather than on supply chain improvements and operational efficiencies (Singh and Singla 2011; Dutta 2011). This may not change with FDI in MBRT, though 50% investments in back-end infrastructure is a reasonable condition.

The chains offered market price-based procurement prices and procured only a limited proportion of the grower's crop without any firm commitment and, more, on a day-to-day basis. They made no provision for any input and did not have any formal contract arrangement. The rejected produce was left for the farmer to dispose off elsewhere as the chains procured only "A" grade produce (Singh and Singla 2011).

This lack of involvement of the chains with primary producers is also revealed by another recent study of Reliance Fresh operations in Karnataka (Pritchard et al. 2010) which states "... supermarket purchasing in India tends to operate without contractual relations with farmer suppliers, and that buyers did not play prominent roles in on-farm monitoring. The practice of CCs issuing their purchase requirements to farmers only the previous night does not promote any shifts in cropping patterns; this would happen only if there is a mechanism to inform farmers about the likely demand for different vegetables ahead of the planting season. ... The rapid winding back of these (procurement) strategies in favour of a looser system of procurement through CCs indicated a level of institutional incompatibility between the profit strategies of the company and the agricultural regions from which it was seeking to buy F&Vs" (p. 452).

Yet another recent study corroborates the above conclusions: "Organised retailers have brought a new institution for marketing of FFVs by creating a system

of preferential payment for quality. The scale of direct procurement, being small, hasn't yet impacted the local *mandi*, where farmers continue to sell bulk of their produce. However, the governance mechanism of the new supply chain created by the organized retailers has not been fully developed. The institutions related to contracts, payments, grades and standards, are yet to evolve. The marketing system of the organised retailers does not fit into the standard contract farming and corporate farming formats. Neither there is a pre-determined procurement price nor is input or technical support provided as part of this arrangement. It is mostly *contact farming*—an informal procurement arrangement, where the retailers have informal arrangements with producers who can provide quality produce. There is no mechanism for sharing production and marketing risks. The procurement volumes and prices change daily based on the front end demand (communicated by the head office) and prices at the local market. Each party is free to explore better avenues of procurement and sale. If these arrangements have to expand and succeed, there is a need to evolve a code of conduct for commercial relations among retailers and the producers” (Sulaiman et al. 2010).

Further, due to the sheer size and buying power of foreign supermarkets, the producer prices may be depressed. In the UK, there was a negative relation between relative market share of a supermarket and price paid to the suppliers in relation to the average price. The UK supermarket chain Tesco paid its suppliers 4% below the average price paid by retailers. There have been a large number of supermarket malpractices across the globe which include: payment to be on the supplier list (listing fees); threats of delisting if supplier price is not low enough; payment and discounts from suppliers for promotions/opening of new stores; rebate from producers as a percentage of their supermarket sales; minus margins whereby suppliers are not allowed to supply at prices higher than the competitor price; delayed payments; lowering prices at the last minute when supplier has no alternative; changing quantity/quality standards without notice; just-in-time systems to avoid storage/inventory costs; removing suppliers from list without good reason; charging high interest on credit, using tough contracts and penalties for failing to supply. Supermarkets also resort to unfair and unethical practices (Chen et al. 2005; Stichele et al. 2007; Singh 2010).

Carrefour suffered penalties in South Korea for unfair business practices, that is, forcing suppliers to cut prices to save 1.737 billion won supply order for 10 months in 2005. It was also fined \$ 170,000 by the Indonesian Business Competition Authority (KPPU) in 2005 for not sourcing goods from a listed supplier who then went bankrupt, which was considered an unfair competition practice. It was also asked to stop minus margin practices. Its agreement was found to include listing fees, fixed rebate, minus margin, terms of payment, regular discount, common assortment cost, opening cost/new store, fees for bi-weekly advertisements, and penalties. Its listing fee was significantly higher than that of competitors and was applied before the suppliers could sell in its supermarkets (Stichele et al. 2006; Singh 2010).

Further, there is no assurance that farmers will receive higher prices, as prices are more about bargaining power of the buyers and the suppliers as Table 9.4 below in

**Table 9.4** A comparison of producer share in consumer price and market share of supermarkets in the UK. (Source: Competition Commission 2008)

Farmers share of final consumer price (in %) in the UK		
Product	1996	2006
Milk and milk products	39	35
Fruits (apple/pears)	35	25
Meat and pork	59	47
Market share of top four retailers	53.5	65

the context of the UK supermarkets shows. It is also known that problems of Indian farming are not only about market risk but also production risk and structural factors such as irrigation, technology, credit, and so on, which MBRT players may not address.

It is surprising that no restrictions on procurement of farm/allied produce were proposed to put to protect the primary producer or smallholder interest when 85% farmers are small or marginal land operators. In fact, there are not even any incentives to encourage small farmer inclusion. The supermarkets are known to prefer large suppliers of farm produce. Further, there was no provision for formal registered contract farming being mandatory in the decision. After many years of presence of wholesale cash ‘n’ carry players and that of domestic supermarkets in India, 60–70% of their procurement was still from wholesale markets, not directly from farmers (Singh and Singla 2011). All these evidences indicate that FDI in MBRT might produce no benefit to small farmers.

## 9.4 MBRT, Traditional Retail, and Employment

India’s wholesale and retail trade sector provides employment to 44 million people who are 10% of the workforce and is the second largest employer of workforce after agriculture. More than half (60%) of this employment is in urban areas. Further, more than one third of the service sector jobs in urban areas are in retail and wholesale trade sector (Chandrasekhar 2011). It is being claimed that 10 million new jobs will be created. But, it is not clear from where these jobs will come as farmers supplying to these supermarkets are already doing some work and are not unemployed. This is similar to the argument made when Pepsi was brought in Punjab in 1989 and it was claimed that 50,000 new jobs will be created by its various projects. But, later, it was found that it was counting potential supplying farmers also in that number! In fact, the supermarket expansion leads to a phenomenon of “retail Darwinism” in which only the fittest survive (Bijoor 2011). Thus, there is employment loss in the value chain. For example, as compared to 18 jobs created by a street vendor, 10 by a traditional retailer and 8 by a shop vendor in Vietnam, a supermarket such as Big C needed just 4 persons for the same volume of produce handled (Wiggerthale 2007). Metro Cash & Carry employed 1.2 workers per

**Table 9.5** Employment profile of major supermarkets. (Average employees per store: 112. Source: websites of various supermarkets; \* Bagaria 2012)

Supermarket	No. of stores	Employees in million	Employees per store
Walmart	9826 (333 in China alone)*	2.1	214
Tesco	5380	0.492	92
Carrefour	15837	0.471	30

tonne of tomatoes sold in Vietnam compared with 2.9 persons employed by traditional wholesale channel for the same quantity sold. The spread of supermarkets led to 14% reduction in the share of “mom and pop” stores in Thailand within 4 years of FDI permission (Singh 2010). In India, 33–60% of the traditional fruit and vegetable retailers reported 15–30% decline in footfalls, 10–30% decline in sales, and 20–30% decline in incomes across cities of Bangalore, Ahmedabad, and Chandigarh, the largest impact being in Bangalore, which is one of the most supermarket penetrated cities in India (Singh and Singla 2011). Further, due to various reasons such as automated processes and higher efficiency, they do not employ many people and thus employment generated per store is low, that is, about 100 employees (Table 9.5).

Therefore, it is important to include the potential employment loss in traditional retail sector when calculating the employment benefits from modern retail and net employment effect should be considered in policy decision. Further, as supermarkets use modern technology, not many jobs may be forthcoming from their operations even with 50% investment in back-end operations.

Another condition proposed was that FDI in retail would be permitted in all cities with population of more than 1 million. This will impact a large majority of traditional retailers as they are concentrated in large cities. Another relevant and crucial question is: How many cities in India are really below the population of 1 million and how long? It is reported that there are 53 cities with population of more than 1 million and they are across the country and account for 42% of urban population in India (Chandrasekhar 2011). Further, given the size of the supermarket retail stores, they may be located in one city but their coverage in terms of potential clientele will extend to neighboring towns as well. It is reported that just 39 cities have a population of 120 million, which is almost one third of India’s urban population (Images Retail, December 2011, p. 68).

## 9.5 MBRT and Food Inflation

So far as role of FDI-driven food supermarkets in containing food inflation is concerned, the evidences from Latin American (Mexico, Nicaragua, and Argentina), African (Kenya, Madagascar), and Asian countries (Thailand, Vietnam, and India) show that the supermarket prices for F&V and other basic foods were higher than those in traditional markets (Singh 2011). In fact, in China, where large global

retailers such as Walmart, Tesco, and Carrefour have hundreds of stores, food inflation has been an issue since 2004 and some local governments have offered subsidy even through the supermarkets, to lessen its effect on consumers (Mei and Shao 2011). Even if it is accepted that supermarkets are able to offer lower prices, the low-income households may face higher transport cost due to the distance from supermarkets, or higher prices charged by supermarkets in low-income areas (Kaufman et al. 1997). Further, the products which are offered at a lower price by modern retail are less relevant for the poor who buy them loose in small quantities (Minten et al. 2009a). Thus, there is no direct correspondence between modern retail and lower food prices and, thus, better food security of the poor consumers. Therefore, the inflation containment logic for FDI in food retail does not stand ground given the empirical evidence from across the globe (Singh 2011). Thus, supermarkets would lead to concentration of market power, with upstream suppliers facing buyer power in terms of lower prices and consumers (buyers) facing higher prices due to lower competition besides traditional retailers suffering a decline in their business.

## 9.6 Policy Issues and Mechanisms

The biggest fear in India is not that the FDI in MBRT per se is worse than domestic corporate investment in it for farmers or traditional retailers though size/scale will certainly be bigger and, therefore, will have more severe impacts, it is that there may not be adequate institutions and effective governance mechanisms to regulate and monitor the operations of the global retailers to ensure fair prices for farmers and end consumers, as well as generate jobs. If the monitoring of wholesale cash 'n' carry stores so far is anything to go by, there is no regulation and the norms are being flouted openly at the store level by the existing players.

The so-called freedom being given to states on FDI decision is not a good step as it may fragment the market and benefits of FDI will be undermined. This is evident from the experience of freedom given to states to amend the APMC Act which has taken 8 years and still there are a few states which had not amended the act and many others have done it in their own way and this has become a thorny issue in agribusiness policy and practice. Further, given that FDI is an important global issue in terms of TRIMs and WTO negotiations, and involves foreign relations, it is important to treat it as a national, and not a regional issue. So far as protection of traditional retail interest is concerned, if there could be Milk and Milk Product Order (MMPO; which restricted private entry into certain milk sheds created by cooperatives) in the dairy sector to protect dairy cooperatives in India from private and multinational onslaught in post-1991 deregulation phase of Indian dairy sector, why cannot there be protection of traditional retail for some time to give it the breathing space? The example of China is quoted to justify the FDI permission. China took over 12 years to liberalize its FDI regime, and in stages. It first allowed only 26% FDI in retail in 1992, took another 10 years to



raise the limit to 49%, and allowed full foreign ownership in 2004, but only in certain cities. It even revoked some previously granted approvals to reduce the foreign retailers' footprint (Mei and Shao 2011; Dutta 2011).

Given the global and the Indian experiences of supermarkets so far, it was important to slowdown supermarket expansion by introducing mechanisms such as zoning within cities, business licenses, and trading restrictions. Further, there is need to limit buying power of the supermarkets by strengthening the competition laws such as the legal protection given under the Delayed Payments Prevention Law, 1956 to subcontracting industries in Japan in their relations with large firms wherein large procuring firms could not undertake certain forbidden acts such as refusal to receive delivery of commissioned goods, delay in payment beyond agreed period, returning delivered goods without good reason, forced price reduction, compulsory purchase of parent firm's good by subcontractor, and discounting payment after prices have been agreed. (These provisions are monitored by the Fair Trade Commission and the Small and Medium Enterprise Agency (SMEA)(Sako 1992.) If contract farming is only another name for subcontracting prevalent in industry, then it is only logical to extend such legal provisions with necessary modifications to farming contracts.

Also, provisions for legally binding and clearly worded rules for fair treatment of suppliers, and an independent authority such as a retail commission to supervise and regulate supermarkets for supplier, consumer, and labor aspects and support to local retailers are required. This authority should ban buying of products below cost and selling below cost, make contract farming must, improve local traditional markets for small growers, slow the pace of supermarket expansion, establish multi-stakeholder initiatives in the chains, and provide support to small producers and traditional food retailers. Producers' organizations and the NGOs need to monitor and negotiate more equitable contracts with the supermarkets. Government should play an enabling role by legal provisions and institutional mechanisms, such as helping farmer cooperatives, producer companies, and producer groups to facilitate smooth functioning of the supermarket linkage and avoid its ill effects. A recent study of producer companies in India reveals that these entities have a potential to deal with supermarkets on behalf of smallholders whom supermarkets will also find attractive to work with, but they suffer from policy neglect as there are no provisions for them to seek investment or working capital support or loans (Singh and Singh 2012). They are not even treated equivalent to traditional cooperatives by policy.

## 9.7 Conclusions

The above experience of food supermarkets in various developing countries shows that the primary producer benefits from such retail linkage are not automatic and farmers or suppliers, especially small ones, are likely to be left out or not able to sustain the linkage, if appropriate mechanisms such as farmer groups or policies

to protect them from supermarket practices are not in place. Even traditional retail sector has suffered from the onslaught of supermarkets in various Asian countries and given India's large traditional retail sector which is so crucial for livelihoods of poor, steps outlined above are needed to protect the traditional sector or assist them in competing with the supermarkets. Finally, supermarkets objective is not to provide cheaper food to the buyers in general and, therefore, the inflation containment logic does not hold water. What is needed is preparedness to leverage the supermarket presence for better smallholder and traditional retail livelihoods in terms of producer institutions, regulation, and well-tailored incentives for inclusiveness.

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# Chapter 10

## Regulating FDI in MBRT: Some Key Concerns

K. S. Chalapati Rao and Biswajit Dhar

### 10.1 Introduction

Effectiveness of regulations depends not only upon the regulations themselves but also on the regulator and the regulated and the environment in which they are implemented. Emergence of regulations can in turn depend upon these three. Will and wherewithal on the part of the regulator on one hand and public pressure on the other are critical for successful implementation. Halfhearted, negligent and poor implementation of regulations can benefit some at the cost of others who are less influential, less vocal or devoid of adequate resources. Equally importantly, if the regulator does not have the requisite information or is constrained by factors beyond his control, then again, the regulations may not achieve the desired objectives.

Though India's current foreign direct investment (FDI) policy places trading under five main categories,<sup>1</sup> the most contentious decision has been with regard

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<sup>1</sup> The five categories of trading under the FDI policy of Government of India are: (i) cash and carry wholesale trading/wholesale trading, (ii) single-brand retail trading, (iii) multi-brand retailing trading, (iv) e-commerce activities and (v) test-marketing of items for which a company has approval for manufacture.

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to multi-brand retail trade (MBRT) or simply retail trade. The major criticisms regarding MBRT are loss of employment, abuse of power by retailer companies at both ends of the chain, import of huge quantities hurting domestic manufacturing, indirect exploitation of labor in farms and factories, privately owned back-end infrastructure benefits do not reach an overwhelming number of small farmers, etc. International experiences have been quoted extensively by both sides.

A dominant feature of the discussion on FDI in multi-brand retail in India has been that a lot of it revolves around Wal-Mart of the USA, the world's largest retailer,<sup>2</sup> directly and indirectly. Indeed, the entry of Wal-Mart is the most talked about case of foreign investment in India after Enron because of various reasons including the already existing large amount of literature on Wal-Mart's operations at home and globally, sustained intense lobbying by the company in both the USA and India and finally the nature of arrangement it had entered into with India's Bharti group. Given the well-acknowledged lobbying by Wal-Mart and the manner in which the policy has evolved in the face of a variety of objections, we do not see much purpose being served in going over the pros and cons of FDI in MBRT (hereafter RFDI) yet another time. Though the ongoing enquiry into the bribery issue by Wal-Mart, US official agencies and the Indian government provide the backdrop to us, we feel bribing of local authorities for store clearances in India, if at all happened, through the reported two dozen consultants<sup>3</sup> would be a much lesser evil. We also feel that India's investigations would yield little especially in terms of identifying the main channels of gratification because bribing need not always have to take place in monetary terms and within the boundaries of the host developing country. The reported actions of Wal-Mart with respect to the Mexican bribery issue also do not inspire confidence in India's ability to get to the bottom of the things.

In the following section, we try to piece together publicly available evidence<sup>4</sup> over the years to understand the forms in which the RFDI policy could have been influenced. An understanding of the process through which this policy has evolved and approach of the various actors plus the whittling down of the sourcing condition associated with FDI in single-brand retail trade (SBRT) may help in foreseeing the extent to which these safeguards would be adhered to. Such an exercise acquires added significance in the context of India's known weaknesses in implementing "tough laws". This is irrespective of whether the conditions incorporated in the FDI policy are sufficient to meet the stated objectives or not. We also take a brief look at a missing element in the discussion on this issue, that is, the contribution of inflows in meeting the current account gap. This is necessary because attracting large FDI

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<sup>2</sup> See: <http://www.smh.com.au/business/the-worlds-top-20-retailers-20130116-2cssw.html>. While Wal-Mart stands at the top with revenue of US\$447 billion, the next placed Carrefour of France is a distant second with a revenue of US\$114 billion.

<sup>3</sup> "The Inside Story: Wal-Mart and the shadow of corruption", *Economic Times*, January 15, 2013.

<sup>4</sup> The Press Clippings Archive of the Institute for Studies in Industrial Development (ISID) is supplemented by documents and press reports available on the Internet, and company documents available at the website of Ministry of Corporate Affairs. References to newspaper reports unaccompanied by Internet URLs are all from the ISID Archive.

inflows has turned out to be an independent objective of policy makers in the context of huge current account gap the country has been experiencing.

## 10.2 Beginnings of Wal-Mart's Engagement with India

Wal-Mart had established a sourcing arm in March 2005 by the name of WM Global Sourcing India Pvt Ltd. It had also started looking for local partners as it wanted to avoid the trouble start it has had in China. However, the government's permission for FDI up to 51 % in SBRT and changing the mode of entry of 100 % FDI in cash and carry wholesale (CCW)—from approval route to the automatic route—freed the company from necessarily following the franchise route. Wal-Mart then made a further move by setting up a market research and business development office in Bangalore in August 2006. Soon it was reported that Wal-Mart entered the board of Indo-US Knowledge Initiative on Agriculture Research and Education along with Monsanto, the leading agricultural biotechnology company of the USA.

In November 2006, Wal-Mart entered into a memorandum of understanding (MoU) with Bharti group. Surprisingly, even though 100 % FDI was allowed in CCW, it preferred to form Bharti-Wal-Mart Pvt Ltd (BWM) as a 50:50 joint venture (JV) with Bharti group. While the JV was to focus on CCW and build the necessary back-end infrastructure, Bharti was to focus upon the retail business in a franchise arrangement with Wal-Mart. Critics and analysts saw this as a way of circumventing the provisions which ban FDI in MBRT.<sup>5</sup>

The furore had even made the Congress president concerned about the matter of FDI in retail and its impact on the livelihood of small traders. She was believed to have written to the prime minister urging the government to ensure that regulatory laws were not being misinterpreted to allow FDI in retail and requesting to move further “only after examining the impact of the decision on livelihood security of those engaged in small-scale operations”.<sup>6</sup> Reacting to the concerns raised by the All India Congress Committee (AICC) president, the Department of Industrial Policy and Promotion (DIPP) commissioned a study through the Indian Council for Research on International Economic Relations (ICRIER), New Delhi, in 2007 on the “Impact of Organised Retailing on the Unorganised Retail Sector”. It would be difficult not to notice the heavy reliance of ICRIER for this study on protagonists of organized retail as both partners of the study and for inputs.<sup>7</sup> That the government relied heavily—almost solely—on this study for its subsequent opening of the retail

<sup>5</sup> See for example: Sunil Jain, “Cash n carry—Wal-Mart”, *Business Standard*, December 4, 2006. See also: Mohan Guruswamy, Kamal Sharma, Maria Mini Jos, “FDI in Retail –III, Implications of Wal Mart's Backdoor Entry”, Centre for Policy Alternatives, New Delhi, February 2007. Available at <http://cpasindia.org/reports/20-fdi-retail-implications-backdoor-entry.pdf>.

<sup>6</sup> “Go slow on retail FDI: Sonia to PM”, *Economic Times*, February 7, 2007.

<sup>7</sup> Mathew Joseph, et al., *Impact of Organised Retailing on the Unorganised Sector*, Indian Council for International Economic Relations, May 2008. [http://dipp.nic.in/English/Publications/Reports/icrier\\_report\\_27052008.pdf](http://dipp.nic.in/English/Publications/Reports/icrier_report_27052008.pdf).

sector is quite evident from its repeated references to its conclusions and recommendations at various forums including the Parliament.

The BWM's first store *Best Price* came up in May 2009 in Amritsar, while Bharti Retail Limited (BRL)'s first retail outlet under the banner *Easyday* became operational in April 2008. Since then, there have been criticisms that the retail operations by Bharti are in fact the operations of BWM through its sales from *Best Price* to *Easyday*. Even as late as December 2012, it was reported that BWM derives bulk of its sales from *Easyday* by taking advantage of the unclear group definition.<sup>8</sup> On the other hand, BRL gets almost its entire supplies from BWM. Though the commerce ministry in 2010 announced through its DIPP a new stipulation that wholesale trading companies cannot derive more than 25% of their sales from group companies and such sales should be for the internal use of group companies, it has not made any impact on the flouting of rules by the JV using the confusion of defining the group companies. It was also helped by the removal of condition of "internal use" of group companies, purportedly at the behest of the finance ministry.<sup>9</sup> Apart from this, there has been the general criticism that the CCWs are indulging in retail sales, as far back in 2003 regarding Metro and later in case of BWM.

### 10.3 Franchise Arrangement Revisited Plus Wal-Mart's Investment in Cedar

Even more importantly, the allegation that Wal-Mart was using Bharti group as a front to directly cater to the retail segment and even funding it, unlike Tesco which provided technical support to Tata's Trent Hypermarket Ltd. without investment, was not looked at seriously till very recently. It needs to be underlined that the new policy was announced in September 2012 even while the alleged retail trading by BWM was being challenged in the Delhi High Court. Consequent on the announcement of the new policy, the petition was dismissed as withdrawn.<sup>10</sup> Incidentally, the initial deadline for conversion of the interest-free compulsorily convertible debentures (CCDs) issued by Cedar Support Services Ltd to the Wal-Mart group was to end by September 30, 2012. A plain reading of these facts suggests that the government might have hurriedly issued the notification to avoid facing the high court on September 26, 2012.

The crucial point here is to understand the role played by an entity called Cedar Support Services Ltd, which was incorporated initially on February 7, 2007, as Bharti Retail (Holdings) Ltd and later changed to the present name as Cedar Sup-

<sup>8</sup> "Bharti Wal-Mart Sells Bulk of Wares to Easy Day Retail", *Economic Times*, December 28, 2012. Also see "FDI Tweak for wholesalers: Relief for Wal-Marts, cap on group sales may go", *Economic Times*, December 12, 2011.

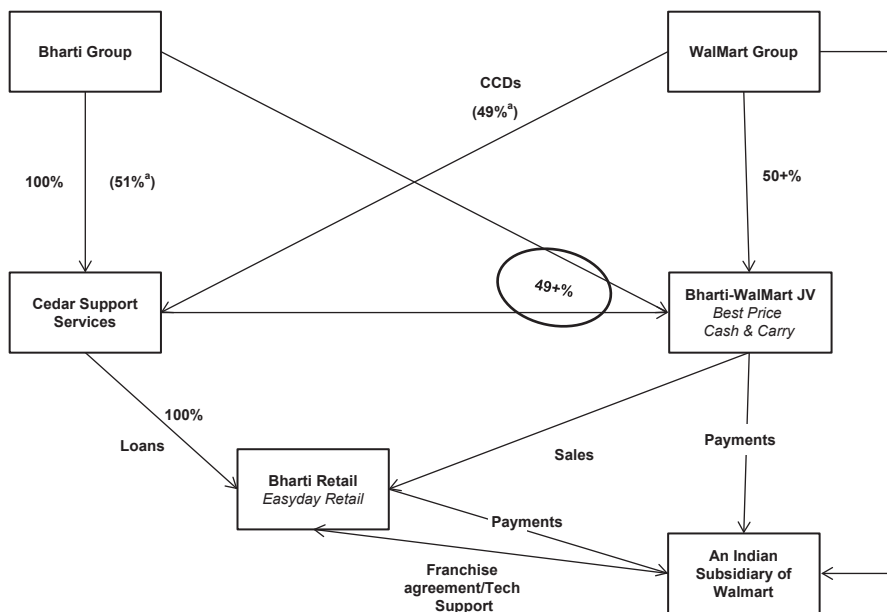
<sup>9</sup> "Finmin wants curbs on sales by foreign wholesaler to arm eased", *Economic Times*, July 8, 2010.

<sup>10</sup> The relevant details of W.P. (C) 4035/2012 are available at [http://delhihighcourt.nic.in/dhc\\_case\\_status\\_oj\\_list.asp?pno=622690](http://delhihighcourt.nic.in/dhc_case_status_oj_list.asp?pno=622690).



port Services Ltd (Cedar) in 2010. Wal-Mart’s investment in the CCDs of Cedar is in sharp contrast to the impression which the Bharti group’s explanations seemed to convey that no financial investment was envisaged.<sup>11</sup> A few days after changing its name, Cedar issued the CCDs in March 29, 2010, for ₹ 455.80 crores (incidentally this was the equivalent of US\$100 million minimum FDI that needs to be invested under the RFDI policy, at the then prevailing exchange rate) it received from the Wal-Mart group’s Wal-Mart Mauritius (4) Holdings Co. Ltd. Only a few days earlier, on March 26, 2010, Cedar issued equity shares worth ₹ 443.30 crores to Bharti Ventures Ltd. Thus both Bharti and Wal-Mart invested in BRL almost simultaneously. Incidentally, Cedar sold most of its shareholdings in BWM to Bharti Ventures Ltd on March 18, 2010, consequent to which its share in BWM fell from 49.99% to 0.99%. This was probably intended to sever the direct connection between Cedar and BWM. Otherwise, Cedar would have been the major shareholder of both BWM and BRL (Fig. 10.1).

### Bharti-Wal-Mart Ventures



<sup>a</sup>: These will be the respective shares of Bharti and Wal-Mart after conversion of CCDs at a small premium. Source: Adopted from K.S. ChalapatiRao and BiswajitDhar, “Vaulting over India’s Retail FDI Policy Wall”, *Economic and Political Weekly*, November 17, 2012, pp.10-13.

**Fig. 10.1** Bharti–Wal-Mart ventures. *a*: These will be the respective shares of Bharti and Wal-Mart after conversion of compulsorily convertible debentures (CCDs) at a small premium. (Adopted from Rao and Dhar 2012)

<sup>11</sup> “Wal-Mart ‘letter-welcome’”, *The Telegraph*, February 24, 2007.

**Table 10.1** Equity structure of Cedar Support Services Ltd

	Item	Amount (₹)	Share in capital (%)	Share in equity (%)
1	<i>Equity capital</i>			
1a	Bharti Ventures Ltd	4,433,522,150	49.31	51.00
1b	Six individuals	60		
2	Compulsorily convertible debentures issued to Wal-Mart Mauritius (4) Co Ltd	4,558,000,000	50.69	
2a	Face value of the equity shares to be issued on conversion <sup>a</sup>	4,259,658,590		49.00
2b	Premium	298,341,410		
3	Total capital (1a+1b+2)	8,991,522,210	100.00	
4	Total equity capital (1a+1b+2a)	8,693,180,800		100.00

<sup>a</sup> Debentures issued on March 29, 2010. Final date of conversion extended from 18 to 30 months. Extended by a further 12 months during September 2012

The scheme of the arrangement among different Bharti and Wal-Mart entities can be seen from the diagram.<sup>12</sup> The funds received by Cedar from Wal-Mart did flow into BRL, subsidiary of Cedar and the retail arm in the set-up, first as debt capital and gradually as equity. There are enough indications which suggest that Cedar operated as a JV of Bharti and Wal-Mart in spite of being wholly owned by the Bharti entities in terms of the subscribed equity capital. Indeed, on March 25, 2010, Cedar itself referred to a JV agreement following which Cedar's Articles of Association (AoA) were amended. The periodic filings with the Ministry of Corporate Affairs clearly reveal the nature of arrangement Cedar and Wal-Mart have. Even without conversion of the CCDs, the JV was to work on "as if converted basis". Pegging Wal-Mart's post-conversion equity to 49% of Cedar might have been planned so that Cedar's downstream equity investments would not be counted as indirect FDI under the new guidelines which came into force on April 1, 2010. That this could even be an afterthought is suggested by the fact that the conversion was to take place at a very small premium. But for the premium, Wal-Mart would be in the majority (see Table 10.1). Further, Bharti's majority on the board, which is necessary to retain its Indian character, was neutralized through specifying that one of the nominees of Bharti should mandatorily be unaffiliated to the group. It is quite relevant to note here that at around the same time the government changed the manner in which indirect FDI was to be reckoned with. A draft press note was issued towards the end of 2009, and the definition was incorporated into the first consolidated FDI policy which became effective from April 1, 2010.<sup>13</sup>

<sup>12</sup> K.S. Chalapati Rao and Biswajit Dhar, "Vaulting Over India's Retail FDI Policy Wall", *Economic and Political Weekly*, November 17, 2012, pp. 10–13.

<sup>13</sup> Following this change, companies which are majority owned by Indians and in which they have the power to appoint a majority of directors will be treated as Indian-owned and Indian-controlled companies. Their downstream investments would be treated as wholly Indian unlike the earlier

At the end of 2011, BRL had equity capital (including share application money) worth ₹ 532.81 crores and 349 crores worth of long-term loans from Cedar. Considering the fact that the total funds of Cedar at the end of 2011 were 901.25 crores (₹ 443.35 crores equity from the Bharti group and ₹ 457.90 crores of loans, essentially the CCDs subscribed by Wal-Mart), it is obvious that Cedar's investments in and loans to BRL would not have been possible without deploying the funds raised through the CCDs. The CCDs were to be converted into equity shares within 18 months, that is, by September 2011. The date of conversion was however extended first by 12 months, that is, till September 2012 and on September 20, 2012, by another 12 months. The delay in converting CCDs could be either to avoid repetition of the initial criticism till the time RFDI was officially allowed or to keep a leeway so that the relative shares could be tailored according to the declared official policy.<sup>14</sup> It could even be due to the fact that the Reserve Bank of India (RBI) did not take the investment on record due to its own reservations. We shall discuss this a little later.

BRL reported purchase of ₹ 1067.47 crores worth of traded goods during 2011. As a part of the related party transactions, it reported purchase of goods worth ₹ 1095.55 crores (including taxes) from BWM. For 2010, the corresponding figures were ₹ 513.04 crores and ₹ 526.34 crores. The company reported a total income of ₹ 1021 crores and ₹ 470 crores for 2011 and 2010, respectively. It is thus apparent that practically the entire income of BRL came out of the items it purchased from BWM. Interestingly, BRL incurred an expenditure of ₹ 0.57 crores and ₹ 1.28 crores in 2010 and 2011, respectively on behalf of BWM. The company also reported payment of royalty and management fees of ₹ 1.51 crores and ₹ 9.95 crores for 2010 and 2011, respectively. The corresponding payments for Business Support Services were as much as ₹ 46.96 crores and ₹ 46.62 crores. Only a part of these payments could be traced to Bharti entities in the form of related party transactions. The remaining amounts could have been paid to Wal-Mart's entities in India, most probably to WM India Technical and Consulting Service Pvt Ltd which received substantial payments from BWM also.<sup>15</sup>

From the reply in Rajya Sabha on December 12, 2012, it was evident that the RBI did not take on record the reported inflow of ₹ 455.80 crores into Cedar, the

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position that investment proportionate to the share of FDI in the investing company would be reckoned as foreign.

<sup>14</sup> For instance, in its response to the discussion paper, Bharti Wal-Mart had said: "Bharti Wal-Mart recognizes, however, the political sensitivity around the retail sector. Recognizing the government's stand to adopt a calibrated approach, we would endorse a position where as a first step, multi-brand retail is opened up at 49%. Should the government pursue this option, there should be a clear path towards 100% FDI in the near future." See: [http://dipp.nic.in/English/Discuss\\_paper/FeedBack\\_AmericanChamberofCommerce\\_30July2010.pdf](http://dipp.nic.in/English/Discuss_paper/FeedBack_AmericanChamberofCommerce_30July2010.pdf).

<sup>15</sup> The recipient could most probably be WM India Technical and Consultancy Services Pvt Ltd whose operations include providing services and assistance to "wholesale business, Supply Chain and logistics support, retail business and other related operations". The company reported gross revenue of ₹ 50.85 crores and ₹ 47.38 crores for the years 2011 and 2010, respectively.

parent company of BRL, the retail arm of Bharti, in the form of CCDs, as it was examining whether the inflow was in conformity with India's FDI policy. It appears that RBI had written to Cedar to "approach DIPP to confirm that its activities were fully compliant with the FDI policy".<sup>16</sup> Did Cedar write to DIPP? Did RBI follow it up with Cedar? What was DIPP's response? One does not know. The net result, however, is that the status of the investment could not be decided for almost 2.5 years while the money was put into use in retail business! Interestingly, it is now being stated that RBI had referred the case along with that of Flipkart Services to the Enforcement Directorate (ED) for further investigation. Whether the matter would have been referred to the ED, but for Mr. M. P. Achuthan's persistence is a US\$100 million question. In fact, the initial impression one got was that there was no record with RBI of inflows into Cedar from the Wal-Mart group.<sup>17</sup>

## 10.4 Ongoing Inquiries

On January 31, 2013, the government set up a one-man committee to inquire into the lobbying and possible contravention of Indian laws. The report had to be submitted within 3 months. There is also the parallel enquiry by the ED regarding the investment in Cedar. It is a moot question whether the two can run independently of each other, the common factor being Wal-Mart's investment in the CCDs of Cedar. In the context of reported stonewalling of House enquiry by the company in the USA, the question is how much cooperation it will extend to the committee. The Mexican case is extremely relevant in this context. The *New York Times* story underlines that Wal-Mart headquarters kept the issue to itself as long as it could. It is said that the person at the centre of controversy, namely, then chief executive of Wal-Mart de Mexico Mr. Eduardo Castro-Wright, was even promoted as vice-chairman of Wal-Mart.<sup>18</sup> According to the *New York Times*, the corporate headquarters of Wal-Mart knew about the development in Mexico as early as 2005.<sup>19</sup> A responsible management would be expected to alert the officials of the Indian JV (which was formed in 2007) as India is only slightly better than Mexico in terms of the corruption perception index, and Wal-Mart has been represented on the Indian JV's Board through expatriates. In fact, on May 13, 2008 (date of Annual General Meeting, AGM), there were as many as six of them including Mr. Michael Duke. One, therefore, feels uneasy from the *Economic Times*' report that a Wal-Mart investigation

<sup>16</sup> "ED Started its probe after receiving a reference from PMO—Bharti Wal-Mart probe: ED Issues notices to four firms", *Indian Express*, December 21, 2012.

<sup>17</sup> RajyaSabha Starred Question No. 346 replied on September 5, 2012.

<sup>18</sup> "Vast Mexico Bribery Case Hushed Up by Wal-Mart After Top-Level Struggle", [http://www.nytimes.com/2012/04/22/business/at-wal-mart-in-mexico-a-bribe-inquiry-silenced.html?pagewanted=all&\\_r=0](http://www.nytimes.com/2012/04/22/business/at-wal-mart-in-mexico-a-bribe-inquiry-silenced.html?pagewanted=all&_r=0).

<sup>19</sup> "Wal-Mart top brass knew of bribery cases since 2005", *Indian Express*, January 12, 2013.

team flagged a disturbing observation about Bharti–Wal-Mart’s employees and the entities they dealt with: “Their knowledge and compliance of an American anti-corruption law that Wal-Mart is governed by needed to be looked into.”<sup>20</sup>

Apart from the fact that the company’s headquarters had failed to inform Mexican and American authorities and took refuge under internal investigations, its lukewarm response to ranking members of the US House of Representatives—one belonging to the Committee on Oversight and Government Reform and the other to the Committee on Energy and Commerce—indicates the difficulties which India might face if it really wishes to dig deep.<sup>21</sup>

The reality in India is that BRL has set up more than 200 stores (who are dependent upon Wal-Mart for their supplies) across different states (some of whom do not have any plans to allow foreign retailers), giving a huge advantage to Wal-Mart over other new entrants. The pace of setting up the stores indeed hastened after Wal-Mart’s investment in Cedar’s CCDs. Whether it had bribed a local authority here and there or not is really of little consequence.<sup>22</sup> Even for this, the investigations need to cover other Wal-Mart entities in India—not just BWM, Cedar and BRL and the 24 consultants. To the best of our knowledge, the other companies in India, besides the branch Wal-Mart Stores Inc., are: WM Global Sourcing India Pvt Ltd, WM Global Technology Services India Pvt Ltd and WM India Technical and Consultancy Services Pvt Ltd. The following extracts from *New York Times*’ report sound a warning bell, and one is not sure how the process adopted by the company in India falls into a similar pattern as far as opening the retail sector for FDI and gaining the first mover advantage.

...Wal-Mart de Mexico was not the reluctant victim of a corrupt culture that insisted on bribes as the cost of doing business. Nor did it pay bribes merely to speed up routine approvals. Rather, Wal-Mart de Mexico was an *aggressive and creative corrupter*, offering large payoffs to get what the law otherwise prohibited. It used bribes to subvert democratic governance—public votes, open debates, transparent procedures. It used bribes to circumvent regulatory safeguards that protect Mexican citizens from unsafe construction. It used bribes to outflank rivals. (emphasis added)<sup>23</sup>

Interestingly, the house democrats were trying to unearth the role of Wal-Mart in the ongoing efforts to “weaken” FCPA by making use of its membership in Retail Industry Leaders Association (RILA) and US Chamber of Commerce.<sup>24</sup>

<sup>20</sup> “The Inside Story: Wal-Mart and the shadow of corruption”, *Economic Times*, January 15, 2013.

<sup>21</sup> [http://democrats.energycommerce.house.gov/sites/default/files/documents/Letter-WalMart-Official-Bribery-Allegations-2012-1-10\\_0.pdf](http://democrats.energycommerce.house.gov/sites/default/files/documents/Letter-WalMart-Official-Bribery-Allegations-2012-1-10_0.pdf).

<sup>22</sup> [http://www.nytimes.com/2012/12/18/business/walmart-bribes-teotihuacan.html?page\\_wanted=all&\\_r=0](http://www.nytimes.com/2012/12/18/business/walmart-bribes-teotihuacan.html?page_wanted=all&_r=0).

<sup>23</sup> [http://www.nytimes.com/2012/12/18/business/walmart-bribes-teotihuacan.html?hp&\\_r=1&](http://www.nytimes.com/2012/12/18/business/walmart-bribes-teotihuacan.html?hp&_r=1&). Accessed on January 26, 2013.

<sup>24</sup> The relevant correspondence is available at [democrats.energycommerce.house.gov](http://democrats.energycommerce.house.gov).

## 10.5 Single-Brand Retail Trade

FDI in SBRT up to 51% under the approval route was allowed initially in 2006. Subsequently, following the aborted attempt at opening up the MBRT, SBRT was opened for 100% FDI in January 2012. The increased limit, however, came with certain conditions, the chief among these being mandatory sourcing of at least 30% of the value of products sold, from Indian “small industries/village and cottage industries, artisans and craftsmen”. This was, however, diluted in September 20, 2012, by making it optional.<sup>25</sup>

The strident protests of the Micro, Small and Medium Enterprises (MSME) Ministry finally came to no avail.<sup>26</sup> It seems that Ingvar Kamprad Elmtaryd Agunnaryd (IKEA)’s argument that its suppliers were bound to grow due to their association with the company and that such firms should continue to qualify as small industries even if their investments exceed the limit subsequently was accepted by the government.<sup>27</sup> It has also reversed its earlier decision not to allow IKEA to run cafeterias.<sup>28</sup> It is relevant to note that IKEA promised to invest about ₹ 10,000 crores in stages. It needs to be seen whether the government will show such flexibility in case of RFDI too.

This should be seen in the context of the earlier reported official position about branded dedicated retail stores that they would be mere outlets for imported goods. Indeed, a question arises as to why a local sourcing condition was not imposed in case of FDI up to 51%. It is another matter how the restriction could be defeated in practice as described in the following section on “Rationale and Implementation of Safeguards”. While a few companies, notably IKEA of Sweden and Pavers of the UK, responded to the new policy according to the government, 63 approvals were given earlier for FDI in SBRT. How much local production got established due to this policy is yet to be assessed. In some of the luxury brands, one cannot expect much to be happening with or without a local partner.

A few of the JVs we could take a look at suggest that these were entered into (i) by existing large local retailers, (ii) real estate developers or (iii) already existing distributors/franchisees of the respective products. Prominent among the first

<sup>25</sup> Vide Press Note No. 4 dated September 20, 2012 of the DIPP.

<sup>26</sup> <http://www.financialexpress.com/news/vayalar-writes-to-pm-on-sourcing-norms-for-fdi-in-single-brand-retail/1001651>. The minister for MSME said in his letter to the prime minister: “If there is any relaxation in this norm, itself, it would lead to major upsurge in cheap imported goods, which are being made in non-transparent economies where direct and indirect subsidy regimes coupled with currency controls, which ensure unfair exports to third countries.” He, however, agreed that the “Government can always give a relaxation that if small units have grown bigger, sourcing from such units would still be considered sourcing from small industry”.

<sup>27</sup> <http://www.hindustantimes.com/business-news/CorporateNews/IKEA-gets-its-way-govt-eases-rules/Article1-933720.aspx>.

<sup>28</sup> “IKEA’s Rs. 10,000 crore investment gets FIPB nod”, <http://timesofindia.indiatimes.com/business/india-business/IKEAs-Rs-Rs-10000-crore-investment-gets-FIPB-nod/article-show/18124008.cms>.

category is the Reliance group which has joined hands with Marks & Spencer, Diesel, Paul & Shark, Zegna (all leading clothes brands) and GrandVision, a leading optical retailer. The Future group (Biyani) also entered into some JVs with Celio (menswear), Etamint (women's wear) and Clarks (footwear). DLF Ltd's JVs fall in the second category: the foreign partners being Giorgio Armani, Ferragamo, Mothercare, Piquadro and Early Learning Centre. While some of these have already faltered, DLF seems to be looking for other alliances. While in the first category domestic retailers could be looking for additional business and better use of the existing space, companies in the second category are most probably looking for getting rental income in the already built-up space in malls. Indeed, when the SBRT policy was announced initially in 2006, some mall developers enthusiastically responded.<sup>29</sup> Interestingly, further opening up of the retail sector followed the permission for 100% FDI through the automatic route in "townships, housing, built-up infrastructure and construction-development projects". In the third category, the existing franchisees may come under more direct control by the foreign investors and may eventually have to exit the business. In essence, to what extent FDI in SBRT will be beneficial in terms of local sourcing for exports, coming up of production facilities, etc., is a big question. However, getting marginal amount of inflows, larger sales of imported luxury/high value items and continuous drain of foreign exchange through imports is guaranteed.

## 10.6 The Case of Swatch Group

The case of Swatch group of Switzerland, the world's largest watch maker and owner of brands like Rado, Tissot, Omega, Longines and Breguet illustrates how an initial manufacturing proposal got turned into a trading enterprise. Swatch was allowed in June 1999 by the government to set up a wholly owned subsidiary for manufacturing and assembling wrist watches for domestic and export markets. To begin with, it was to import watches and test-market them in India for 2 years. Simultaneously, it was to take steps to establish manufacturing facilities.<sup>30</sup> Prior to that, back in July 1996, the company received approval for a JV with India's RPG group to manufacture quartz analog wrist watches. This in itself was a culmination of the letter of intent signed between the two in December 1994. The JV agreement however remained dormant. Responding to RPG's concern about the continuing delay, even in 1998, Mr. Nicholas G. Hayek, chairman of the board and

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<sup>29</sup> For instance, then CEO of Inorbit Malls said that "(t)he move will especially boost luxury retailing, and as a mall developer, it is good news for me as there will be more takers for mall space". See: "But what is single-brand retail?" <http://www.thehindubusinessline.in/2006/01/26/stories/2006012601070800.htm>.

<sup>30</sup> "FIPB clears Swatch, Delphi, Denso, Nokia proposals", <http://www.financialexpress.com/old/fe/daily/19990608/fco08020.html>.

chief executive officer (CEO) of Swatch group personally conveyed the company's commitment to the JV. When in 1999 the company approached the government for setting up a 100%-owned subsidiary, the RPG group initially objected but finally gave the necessary no objection certificate. In August 2001, the government gave its approval amending the existing approval.<sup>31</sup>

No fresh inflow of FDI was involved in this approval. In 2002, it was reported that the company was planning to open franchisee-run exclusive retail outlets.<sup>32</sup> In February 2005, the company received another approval for "import and wholesale trading of jewellery". This too involved no additional inflow. Interestingly, in early 2006, Ms. Nayla Hayek, member of the company's management board and daughter of Mr. Nicholas G. Hayek, was reported to have "ruled out Swatch shifting some of the watch making facilities to low cost economies like India or China" and added that "Swiss-made watches remain Swiss-made", and in the long run the company may consider making non-Swiss-made brands like *Endura* in India.<sup>33</sup> Her father, Mr. Nicholas G. Hayek, only talked about forming a JV for setting up a dedicated distribution network.<sup>34</sup> As of now, the group's production facilities in Asia are located in China (electronic components), Malaysia (assembly of electronic components) and Thailand (electronic components). It has distribution facilities in all the three countries, whereas the Indian operations are restricted to distribution only.<sup>35</sup> Incidentally, the basic duty on watches imports has fallen from 50% in 1995-1996 to 10% now.

The company's imports into India predominantly comprise finished goods, spare parts and some capital goods. In 2011, these were ₹ 265.18 crores, ₹ 5.49 crores and ₹ 1.40 crores, respectively. Other expenditure in foreign exchange includes ₹ 12.02 crores towards reimbursement of advertisement expenses (including material). The total expenditure during the year worked out to ₹ 286.25 crores. Corresponding earning in foreign exchange on account of miscellaneous income was ₹ 0.31 crores. During the past 4 years, the total outgo was about ₹ 800 crores, whereas the paid-up capital is ₹ 111 crores. One does not know whether the requirement to manufacture locally was dropped or there was no follow up on part of the government. The essential point is that this 100%-foreign-owned company is engaged only in importing and selling its watches and jewellery (through kiosks and exclusive outlets possibly owned by franchisees) under different brand names.

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<sup>31</sup> DIPP Press Release dated August 6, 2011.

<sup>32</sup> "Swatch group mulls exclusive outlets", *Business Line*, Tuesday, May 14, 2002. <http://www.thehindubusinessline.in/2002/05/14/stories/2002051400930600.htm>.

<sup>33</sup> "Indian standard time for Swatch", *Financial Express*, April 2, 2006.

<sup>34</sup> "Swatch plans joint venture for Indian market", *Business Line*, September 13, 2008.

<sup>35</sup> *Swatch Group Annual Report 2012: Consolidated Financial Statements*, p. 204.



## 10.7 Sony and Samsung

Sony India Pvt Ltd, a wholly foreign-owned company, shut down its manufacturing operations in 2004–2005 and is now engaged mainly in selling imported products and software development. The closing down of the plant in Dharuhera appears to be a fallout of India's FTA with Thailand.<sup>36</sup> Samsung India Electronics Pvt Ltd falls into a similar, if not identical, category. The company report suggests that the ratio of “own production” sales to sale of “traded items” was roughly 1.3:1. However, imported raw materials and components constitute about three fourths of total consumption, thereby making it more of an assembler rather than a manufacturer. The company also engages in software development. Samsung once again is a 100%-foreign-owned company. Incidentally, Samsung pays a huge amount of royalty to its parent company—the outgo on this account alone during the past 3 years exceeded the company's paid-up capital of ₹ 217 crores. Imports however run into a few thousand crores, the figures for 2011 being ₹ 9339 crores.

In the above sections, we saw three different types of cases. All the three are well known by their main brand names. Swatch entered with the promise of setting up manufacturing facilities but did not set up any such operations. Sony had some manufacturing facility but exited manufacturing. Samsung does show manufacturing activity, but the extent of local “manufacturing” is open for questioning. Under which provisions of India's FDI policy their operations fall is a question that needs to be looked into. Leaving aside the software development activity which is subsidiary to their operations, if selling through franchisee outlets is not treated as trading by the foreign companies, then these will be mere importers. If it is treated as retail, SBRT rules would apply to them. Or, do they fall under CCW which includes “resale, processing and thereafter sale, bulk imports with ex-port/ex-bonded warehouse business sales”? Or, is there a policy vacuum?

In fact, some pertinent comments were made when SBRT was opened initially in 2006. Then chief operating officer (watches) of Titan Industries said, “What do they mean by single brand? A multi-brand retailer such as Harrods is also a single brand, while an Omega is a single brand in itself.” Similarly, then CEO of Home Solutions India Ltd asked whether Tesco selling all its products under its own brand could be termed as single-brand retail.<sup>37</sup>

Further, one is not even sure whether India maintains a systematic record of all the conditions imposed/commitments made at the time of entry. Adidas India Marketing Pvt Ltd provides an interesting case. The company reported:

The approval granted to the Company to conduct business in India from Foreign Investment Promotion Board (FIPB) has a remark that it has noted the proposal made by the company. The proposal was that “through these proposed activities in India, Adidas by current projections estimates to bring about foreign exchange earnings for India through exports by Indian manufacturers to the tune of USD 100 million over the next five years of its operations”. The company has discussions with representatives of FIPB and as the

<sup>36</sup> “Sony India's CTV Prodn In Freeze Frame”, <http://www.financialexpress.com/news/sony-india-as-ctv-prodn-in-freeze-frame/111259>.

<sup>37</sup> “But what is single-brand retail?”, <http://www.thehindubusinessline.in/2006/01/26/stories/2006012601070800.htm>.

estimate of exports given in the proposal could not be fulfilled and are of the opinion, based on discussions with FIPB, that non-adherence to the estimate will not have any impact on the approval granted.<sup>38</sup>

It is quite possible that the offer to promote exports from unaffiliated manufacturers might have prompted the Indian authorities to grant permission to invest in India. On the other hand, with such a large variety of products one wonders how IKEA cannot be treated as any regular retailer just because all its products ranging from furniture to textiles, kitchen and dining room accessories, domestic appliances, lighting fittings, toys and cafeterias are under IKEA's umbrella. Had it been treated as an MBRT, IKEA would not have been able to take up more than 51 %.

It does appear that there are a lot of grey areas in classification and gaps in follow-up action. The latter will have significant implications for the monitoring of the conditions associated with both SBRT and MBRT. It also raises serious doubts about realization of objectives in allowing FDI in SBRT as they may end up promoting consumption of imported luxury goods without meaningful local production possibilities.

## 10.8 Rationale and Implementation of the Safeguards

The main issue, as far as India is concerned and emerging from the above lengthy narration of events and decisions since 2006, is that behind the opening up of MBRT for FDI there has been long and sustained lobbying by interested foreign parties. It is difficult to say the precise extent of lobbying and external pressure on each of the following: (i) the "acceptance" of the structure of the relationship between Wal-Mart and Bharti as "permissible", (ii) the long delay in deciding about the CCDs issued by Cedar to Wal-Mart, (iii) taking no action against CCW companies indulging in retail sales, (iv) scuttling of the rule with regard to sales to group companies by CCW companies, (v) declaring the new policy while the issue was in Delhi High Court and (vi) changing the way in which indirect FDI was to be reckoned with. But these do indicate that once the Indian policy makers were convinced either based on their own assessment of the benefits of RFDI or due to the pressure from abroad, the process has been unidirectional. More than bureaucratic negligence/inefficiency, it appears to be a grand strategy to provide a window of opportunity to begin with and work towards further opening the doors widely while simultaneously turning a blind eye to the transgressions of the extant provisions. Effectiveness of the conditions incorporated in the RFDI policy should, therefore, be seen in this context. We briefly examine these in the following sections.

The standard argument in favour of the 51 % cap on FDI is that Indian investors would necessarily be involved in the ventures and that they would learn from foreign companies and in the process of protecting their own interest they would exercise a degree of control that could be useful in protecting also national economic interests.

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<sup>38</sup> Adidas India Marketing Private Ltd., Annual Report, 2010.

However, given the manner in which foreign investors secure their rights, often reducing the Indian collaborator to just a sleeping partner, one is not sure how the 51% cap can help especially when the local investors are looking for returns from built-up/hired space. The domestic partners could even be some local suppliers who would be obliged to the foreign investor. The RFDI companies could also go for a public issue in which case there will be no question of a domestic partner. The experience of equity dilution under Foreign Exchange Regulation Act (FERA) is quite relevant in this context. In fact, keeping in view the strong opposition, Wal-Mart was even prepared to accept a “minority” share of 49%. The Indian partners can neither claim even part ownership of the brand names nor the knowledge embedded in the databases of the foreign retailers and their global supply chains, which is the latter’s main strength. This is wholly unlike manufacturing companies. From many indications and past experience, the cap is going to be an intermediate stage, and the limit could be raised progressively thus reducing whatever advantages that this arrangement was expected to offer. In fact, the 51% limit may provide the foreign investor an opportunity to tap more local risk capital than otherwise. Some of the domestic retailers may be looking for forming JVs with foreign retailers as a way of gradually getting out of the business altogether.

On the other hand, one does not understand why conditions should apply only when foreign companies opt for equity levels above 51% in case of SBRT. Given the limited benefit, if at all, expected from them, conditions should have been imposed even otherwise. Most of these sell high-value luxury-branded items, and there is no possibility of these investors sharing anything with local partners. In their case, brand name is even more important which is jealously guarded by the foreign investor. A few of them were found to be importing even packing materials, not to speak of the spares!

The minimum investment of US\$100 million is meant to keep non-serious players away. However, the corresponding minimum investment in back-end infrastructure which is about ₹ 250 crores is unlikely to make a meaningful contribution to development of back-end infrastructure especially as such infrastructure is defined to cover a wide variety of activities. Since there is no bar on accessing domestic capital market, deployment of local financial resources may further reduce the effectiveness of this requirement. Additionally, if partial or complete takeover of existing logistics operations is considered as investment for this purpose, no additional facilities would be developed. Unless there is a stipulation that the investment should be on a continuing basis, the foreign investors can withdraw from it after some time, with or without premium on such investment. Some of these may sound farfetched, but given the way things have gone so far, such possibilities cannot be ruled out. The condition could have been more effective had it been placed on the total investment and on specific categories of activities rather than a whole host of activities.<sup>39</sup>

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<sup>39</sup> Back-end infrastructure will include capital expenditure on all activities, excluding that on front-end units. It will include investment made towards processing, manufacturing, distribution, design improvement, quality control, packaging, logistics, storage, warehouse, agriculture market produce infrastructure, etc. Expenditure on land cost and rentals, if any, will not be counted

A lot of emphasis has been placed on the requirement of sourcing a minimum of 30% from Indian small industries. This is expected to address the fears that imports would hurt local small units badly. However, going by the official criterion which identifies small industries only on the basis of investment in plant and machinery with no reference to the ownership, quite a few possibilities suggest for themselves. First of all, it is inexplicable why the investment limit was expressed in terms of US dollars, whereas the Micro, Small and Medium Enterprises Development (MSMED) Act, 2006, defines small enterprises as those having investment in plant and machinery between ₹ 25 lakhs and ₹ 5 crores. Will the investment limit for MBRT change according to the exchange rate? We do not think the policy makers would be having such a ridiculous possibility in mind. However, devoid of the ownership criteria even 100%-foreign-owned companies can qualify as small industries.<sup>40</sup> What one generally perceives as small need not necessarily be small at all. It can be a subsidiary/affiliate of a foreign company or a large/medium Indian company. It could just be assembling, doing some final processing or even doing repacking of a nearly finished (imported) product. The 30% requirement, in any case, does not act as a safeguard against large scale imports. Will rice, flour, edible oils and split pulses be counted as processed items? The larger the basket, the less effective will be the condition. On the other hand, the condition has no provisions for safeguarding the interests of genuine local small units.

It also needs to be underlined that franchise agreements need not be confined to providing the knowledge of supply chains but could actually be another backdoor entry, as illustrated by the arrangement between Tatas and Tesco. The essential elements of the arrangement in the words of the franchisee, namely, Trent Hypermarket Ltd are:

Trent Hyper entered into a franchise and wholesale supply arrangement with Tesco Plc and its wholly owned subsidiary in India respectively, in respect of the Star Bazaar business. The exclusive franchise agreement allows the Company to access Tesco's retail expertise and technical capability processes and best practices... Under the wholesale supply arrangement, Star Bazaar now sources merchandise from Tesco's wholesale business in India, benefitting from Tesco's sourcing capability and supply chain expertise. Given concerted efforts from both teams, *a significant share of merchandise retailed across Star Bazaar stores is now being sourced by Tesco Hindustan Wholesaling Pvt Ltd.*

Implications of such arrangements with obliging Indian parties for investment in back-end infrastructure, sourcing from small industries and locational restrictions are obvious. Also when the arrangements are so comprehensive, the Indian franchisees will hardly learn from the arrangement.

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for purposes of back-end infrastructure. See: [http://dipp.nic.in/English/acts\\_rules/Press\\_Notes/pn5\\_2012.pdf](http://dipp.nic.in/English/acts_rules/Press_Notes/pn5_2012.pdf).

<sup>40</sup> The government, in fact, explained in no uncertain terms that "As per the existing policy, 100% FDI is permitted in MSME sector subject to sectoral caps." This was stated in Lok Sabha as the reply to the Unstarred Question No. 1405, answered on August 3, 2010.

Given the manner in which the CCW policy has been operating, the stipulation on the location of retail outlets may not prove to be as big a hurdle as one sees it to be. For instance, many of BRL's *Easyday* outlets are already in states which are not prepared to have RFDI. Some of them are in locations with a population much less than 10 lakhs. Cedar type of arrangement comes handy for many particularly as long as the definition of indirect FDI remains, as it has been since April 2010.

While providing access to global markets for domestic agricultural produce and local, small and medium enterprises through the large foreign retailers figures in the official scheme of things, surprisingly no obligations are being placed on them to generate export revenues. The issue of employment impact studies for each store proposed by the labour ministry also does not figure among the conditions. The proposal of minimum sales requirement to local retailers by the large retailers, proposed by the official discussion paper is also missing from the list.

It is said that compliance with the conditions will be ensured through self-certification and certification by the auditors. This could be "cross-checked as and when required". While the DIPP press note is not specific in this regard, we presume that this will be by the government. Given the manner in which government agencies behaved at various instances, described in the foregoing sections, it is highly debatable as to how much reliance one can place on this provision. It also needs to be underlined here that large trading companies have been obtaining exemptions from disclosing details of sales, purchases and stocks, which they were to disclose under Clauses 3(i)(a) and 3(ii)(b) of Part II of Schedule VI of the Companies Act, almost as a matter of routine.

The periods over which foreign companies have to meet the obligations from the time of initial inflow of investment are 3 years in case of back-end infrastructure and 5 years in case of procurement from small industries. While these may sound reasonable, the possibility of dilution of the stipulations within this period places a question mark on their utility. Further, as in case of SBRT, if there is provision for small units to grow into medium and larger enterprises, it may be just enough that the units were registered as small units at the time of initial procurement.

Unless the loopholes in operation of CCW operations, which have no such restrictions, are plugged, the foreign companies may freely combine the two as also franchising and avoid spending substantial amounts on back-end infrastructure. In fact, local retailers could have benefited had the FDI been confined to CCW by placing some obligations and eliminating the scope for backdoor retailing. Indeed expressing surprise over the DIPP seeking public opinion on the conditions that should be placed on foreign retailers if they are allowed, through its discussion paper, the Nag-Vidarbha Chamber of Commerce said:

The reason why we feel so (surprised) is that your department has not been able to enforce any of the conditions which were laid down in the Licences granted for "Cash & Carry Wholesale Trade"... Even today the violations are continuing & in spite of that *you are audaciously asking the public at large to give their views on the conditionality* to be placed

on MNC retailers.... It will therefore be *better not to expose your department to further embarrassment* on those sensitive issues. (emphasis added)<sup>41</sup>

A lot depends upon the way the actual guidelines are framed. In the end, just as one has seen the progressive yielding of space to FDI in SBRT, one cannot rule out the possibility of the guidelines being tailored to meet the foreign investors' convenience. Reports indicate that large retailers have already sought clarifications from the government. For instance, representatives of Wal-Mart and Tesco met India's minister for commerce and industry at the World Economic Forum meeting in Davos towards the end of January 2013 wherein the minister was reported to have promised to do the necessary "handholding".<sup>42</sup> Tesco also used the visit of the British prime minister to India during February 2013 to bolster its case.<sup>43</sup> There is also the push towards doing away with the restriction on FDI in online retail.<sup>44</sup> While it is a different matter that the government may not be able to withstand the pressure, especially in the context of attracting large capital inflows, to stick to its stand of not going back on the safeguards, it is clear that the foreign investors do not wish to be bound by the requirements of sourcing from small enterprises and investment in back-end infrastructure.<sup>45</sup> Thus, as long as the restrictions remain on paper, they are likely to be followed in letter but not in spirit. After all, Bharti and Wal-Mart have been consistently maintaining that their operations were in conformity with the official policy. With questions being raised about the quantum of inflows that India could attract following the September 2012 announcement, the government would be under even more pressure to show results and is thus more likely to concede foreign investors' demands.

## 10.9 Stable Character of Inflows: A Quick Take

The way RFDI has been approached raises many questions not merely the ones relating to circumvention of the extant laws. One of the expectations from RFDI was that it will go towards meeting India's current account gap. But there is hardly any systematic and regular monitoring to examine whether this expectation is being met in general by FDI, or FDI itself is contributing to the widening of the gap. For example, looking solely at BWM, it is evident that within 4 years of its formation, the inflow of ₹ 100 crores in the form of equity participation by Wal-Mart has been

<sup>41</sup> See: [http://dipp.nic.in/English/Discuss\\_paper/Feedback\\_FederationAssociation\\_Maharashtra\\_13July2010.pdf](http://dipp.nic.in/English/Discuss_paper/Feedback_FederationAssociation_Maharashtra_13July2010.pdf).

<sup>42</sup> <http://news.indiamart.com/story/anand-sharma-assures-full-support-tesco-walmart-174305.html>.

<sup>43</sup> <http://www.telegraph.co.uk/finance/newsbysector/retailandconsumer/9875414/Tesco-calls-on-Cameron-to-aid-Indian-growth.html> and [http://articles.timesofindia.indiatimes.com/2013-02-18/india-business/37160053\\_1\\_ceo-philip-clarke-foreign-retailers-star-bazaar](http://articles.timesofindia.indiatimes.com/2013-02-18/india-business/37160053_1_ceo-philip-clarke-foreign-retailers-star-bazaar).

<sup>44</sup> <http://www.financialexpress.com/news/montek-pitches-for-fdi-in-online-retail/1085245#>.

<sup>45</sup> "No change in FDI policy: Foreign retailers told to work out India rollout under existing rules." <http://economictimes.indiatimes.com/news/news-by-industry/services/retail/no-change-in-fdi-policy-foreign-retailers-told-to-work-out-india-rollout-under-existing-rules/article-show/18960804.cms>.

**Table 10.2** Snap shot of Bharti–Wal-Mart Pvt Ltd

Item	As on Dec. 31, 2011 (₹ crores)
Total equity capital	200.01
Of which,	
Wal-Mart's direct contribution via Mauritius	100.05
Cedar Support Services Ltd	2.00
Bharti Ventures Ltd	98.05
Secured loans (from banks)	1104.35
Sundry creditors	265.09
Total income	1876.43
Accumulated losses	765.39
Foreign exchange outgo (till Dec. 31, 2011)	111.24
Professional fees, royalty, travel, personnel expenses, etc.	57.15
Imports	54.09
Payments to WM India Technical and Consultancy Services Pvt Ltd (in Indian currency 2007–2011)	148.25

more than balanced by outflows on account of a variety of transactions, activities and imports (₹ 111 crores). This is the situation when the company is yet to make profits and remit dividends. Further, BWM paid nearly ₹ 148 crores to WM India Technical and Consultancy Services Pvt Ltd during 2007 and 2011 on account of services and royalty. The situation would be worse if the royalties and other payments made by BRL to Wal-Mart's entities, indicated earlier, are also taken into account. Thus, even if the inflows in the form of CCDs into Cedar are also taken into account, the inflows will soon be overshadowed by outflows. On the other hand, BWM did not report any worthwhile earnings in foreign exchange.<sup>46</sup> Further, against the total equity capital of ₹ 200 crores, BWM depended upon as much as ₹ 1100 crore loans from local banks (see Table 10.2).

<sup>46</sup> An interesting and relevant development is the case of Del Monte Pacific (DMP). Following the formation of Bharti–Wal-Mart JV, DMP's subsidiary in India, Del Monte Foods India Pvt Ltd (DMF), part-replaced Rothschild in the JV with the Bharti group, Fieldfresh Foods, in 2007. During 2008, DMF de-bonded its unit in MEPZ, which was processing mango pulp for export, and transferred the same to its JV with Bharti group. The JV imported equipment under EPCG with export obligations and was also eligible for export incentives. The JV, a supplier to BWM, received subsidies under (i) VisheshKrishi and Gram UdyogYojana, (ii) Transport Assistance Scheme and (iii) Infrastructure Development Scheme. Interestingly, over the past 3 years, the JV's earnings in foreign exchange were far lower than expenditure in foreign exchange. Besides finished goods, packing materials form an important component of spending in foreign exchange. It was indeed said in 2007 that "The company now plans to enhance its focus on the Indian market—a pointer to its logical integration with the Bharti-Wal-Mart retail chain, which is in the works. FieldFresh will also be undertaking exports as and when opportunities arise." Thus, an export-oriented unit has turned itself into a domestic-market-oriented one and received a variety of subsidies and concessions. It is a different matter that the MEPZ unit in Tamil Nadu was accused of causing serious ground water pollution. The unit was reported to have been closed down.

**Table 10.3** Some basic figures of two major cash and carry companies (₹ crores)

Item	Carrefour (2007)		Metro (2001)	
	2011	2010	2011	2010
PUC + share premium	230.32	147.32	1292.68	1292.68
Loans	90.00	60.00	482.43	249.94
Sundry creditors	28.78	12.62	153.54	91.69
Imports	179.54	13.77	NR	NR
Other expenditure in FX	0.35	0.97	19.12 <sup>a</sup>	11.60 <sup>a</sup>
Sales	171.32	0.56	1624.82	1219.64
FX earnings	#	#	0.71	0.30

*PUC* paid-up capital, *FX* foreign exchange

# The company categorically stated that it was “concentrating on the domestic markets...does not have any specific export initiatives...”

<sup>a</sup> Royalty due to parent company was ₹ 16.25 crores in 2011 and ₹ 12.20 crores in 2010, constituting 1% of the corresponding year’s sales

Similarly, the imports of Carrefour WC&C India Pvt Ltd amounted to ₹ 180 crores in 2011 alone, whereas the capital inflow on its account, including premium, was ₹ 230 crores (see Table 10.3). The directors categorically stated in the annual report that the company was “concentrating on the domestic markets...does not have any specific export initiatives...” Since Metro Cash and Carry India Pvt Ltd did not report data on its imports, we are not in a position to comment on the net impact. On top of all this, further revenue loss will be there for the exchequer as most of these investors are bound to use the Mauritius transit route.

Operations of other FDI trading companies including those engaged in SBRT reveal that there are many ways in which outflows take place irrespective of the profitability. Such remittances and expenses do not necessarily bear any relationship with the initial investments. For instance, Amway India Enterprises Pvt Ltd, having a paid-up capital of ₹ 21 crores, spent as much as ₹ 699 crores in foreign exchange under various heads during 2008–2009 to 2010–2011 (see Table 10.4). Out of the total expenditure in foreign exchange of ₹ 19.18 crores by Modi Revlon in 2010, as much as ₹ 8.38 crores was on account of “royalty”. In case of Herbalife, external payments on account of “administrative expenses” were ₹ 15.30 crores while the

**Table 10.4** Amway India’s expenditure in foreign exchange (₹ crores)

Year	Share capital	Reserves	Dividends	Others	Imports	Total
2008–2009	21	96	128	40	27	195
2009–2010	21	115	139	50	27	216
2010–2011	21	145	171	68	48	288
Total			438	159	102	699



**Table 10.5** Illustrative cases of FDI trading companies having relatively large expenditures in foreign exchange and/or finished goods imports (₹ crores)

Name of the company (year of incorporation)	Accounting period ending	PUC	Expenditure in foreign currency	Of which traded/finished goods	Earnings in foreign currency
Adidas India Mktg (1995)	31.12.2010	54.97	59.58	54.28	negligible
Avon Beauty Products (1995)	31.03.2011	235.63	47.53	41.63	Not reported
Swatch Group (India) Pvt Ltd (2000)	31.12.2011	111.13	286.26	265.18	Not reported
Christian Dior Trading (India) (2005)	31.03.2011	0.20	12.31		Nil
Modi Revlon (1994)	31.12.2010	0.94	19.18	9.53	0.36
Glencore (India) Pvt Ltd (1995)	31.12.2010	8.02	95.35	95.16	33.46
Glencore Grain (India) (2005)	31.03.2011	12.5	404.17	400.61	133.01
Herbalife International (1998)	31.03.2010	4.08	23.54	1.09	negligible
Life Style International (1997)	31.03.2011	112.05/52.25	124.79	Not reported	Nil
Louis Dreyfus Commodities (1995)	31.03.2010	6.96	853.79	410.82	574.69

*PUC* paid-up capital

total expenditure in foreign exchange during 2009–2010 was ₹ 23.54 crores. Some of these incur huge losses but yet remain in business. In case of some companies, import of finished goods is a major item on which foreign exchange is spent. Many of these do not have compensatory earnings in the form of exports (see Table 10.5). Like BWM, use of substantial local financial resources is not also uncommon (see Table 10.6).

It is more likely that the foreign retail companies will expand gradually, with limited investment from abroad. Since the ploughing back starts almost from day one, the same could come back as FDI, if needed. Also, for purposes of the back-end infrastructure stipulation, retained earnings would not be counted but would come in handy for expansion purposes.

**Table 10.6** Illustrative cases of reliance on loans/sundry creditors (₹ crores)

FDI company (year of incorporation)	Accounting period ending	PUC	Reserves	Loans	Sundry creditors
(1)	(2)	(3)	(4)	(5)	(6)
Adidas India Mktg (1995)	31.12.2010	54.97		220.01	143.65
Samsonite South Asia (1995)	31.12.2010	35.49 (21.29)		19.38	114.19
Christian Dior Trading (India) (2005)	31.03.2011	0.20	0.94	94.33	
Nike India Pvt Ltd (2004)	31.05.2010	8.68	13.82	156.79	12.45
Glencore Grain (India) (2005)	31.03.2011	12.50	20.00	187.20	225.56
Herbalife International (1998)	31.03.2010	4.08	30.01		44.48
Life Style International (1997)	31.03.2011	112.05 (52.25)	179.01	345.01	418.11
Louis Dreyfus Commodities (1995)	31.03.2010	6.96	40.77	299.15	
Noble Resources Tdg (1991)	31.03.2010	66.12		206.11	340.03
Levi Strauss (India) (1994)	31.03.2010	37.50		121.57	141.67

*PUC* paid-up capital

Figures in brackets in column (3) indicate foreign share in case of joint ventures. In the remaining ones the entire capital is foreign owned

## 10.10 By Way of Summing Up

What concerns us more is that the case of RFDI seems to provide a classic example of large global corporations succeeding in influencing public policy of developing countries and putting the regulatory system to stupor with the backing of powerful home governments and exploiting the developing countries' need for foreign capital. No foreign investor would spend millions on lobbying just to get the opportunity to serve host country's interests. It also falls into the usual pattern of blindly following others (e.g. promoting SEZs by India) without caring for their essence and ground realities of the host country. It could also be reflective of the faith in textbook type results. Otherwise it would be difficult to explain some of the omissions and commissions made by India. Effectiveness of the safeguards depends upon the way the actual guidelines are framed and known loopholes plugged. Given the above track record, one cannot rule out the possibility of the guidelines being tailored to meet the foreign investors' convenience. Equally important, the safeguards do not address the concerns of the vast number of farmers and small traders.

On the other hand, while the government took comfort from the fact that India is not a signatory to General Agreement on Trade in Services (GATS) and that the Bilateral Investment Promotion Agreements (BIPAs) would come into play only with regard to post-approval changes in the policy environment, one is not sure whether

the existing BIPAs and Free Trade Agreements (FTAs) would leave some scope for action on part of foreign investors especially because the investors can pick and choose the provisions from among all the agreements which suit them the best.

The government is simultaneously underplaying and highlighting the role of RFDI. While it extrapolates the finding that organized retail in India did not cause much negative impact on small traders, it also expects the opening up to be a game changer thereby implying that foreign retail majors are vastly different from Indian organized sector players. Logically, their impact should also be different. Again, the government told the Supreme Court that since RFDI will be limited to 53 cities with a minimum population of 1 million, and hence only 13.3% of India's population will be covered by RFDI<sup>47</sup> thereby trying to convey that negative impact on small traders, if at all, would be quite limited and localized. Does this mean that the policy will remain static for all times to come? If this was to be the case, why did the ruling alliance put its own survival at stake and resort to deft floor management to carry the day? Will it help contain inflation? Will it transform Indian agriculture? Similarly, it was forcefully argued in the Parliament that large retailers cannot set up their operations in cities like Delhi due to high real estate prices, the attempt was once again to downplay the negative impact on local small traders. It is obvious that this tactic is aimed at blunting the opposition so that the initial hurdle can be crossed, and once this objective is achieved, subsequent relaxations would face much less opposition.

In sum, the protection offered by the safeguards is illusory. Given so many possibilities, it would be difficult to expect India to implement the conditions strictly. They may even be diluted or completely withdrawn before the time arrives for assessment. The devil will lie in the details of the guidelines. While the central government can be expected to be more accommodative, a lot depends upon the state governments in actual implementation.

The net addition to investable capital could also be short-lived. A country which openly states that it does not have a choice between welcoming and spurning foreign investment and that foreign investment is an "imperative" cannot dictate terms to foreign investors. Clearing investment proposals before major international events and important foreign visits and interactions with foreign investors to demonstrate India's willingness to accommodate foreign investors' demands need not be in tune with the objective of encouraging "foreign investment that is consistent with our objectives".<sup>48</sup> In this context again, the issue of relative quantum of FDI into the retail sector and the associated imports and other payments acquires significance. Indian economy has become far more import intensive within a decade: The imports to GDP ratio increased from 10.6% in 2001 to 25% in 2011. This is in sharp contrast to the experience of Brazil and Indonesia where the share fell.<sup>49</sup> Unfortunately, the policy makers' attention has been riveted on measuring the inflows rather than on their impact. Given India's experience so far, instead of bridging the gap, foreign

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<sup>47</sup> [http://articles.timesofindia.indiatimes.com/2013-02-23/india/37256431\\_1\\_multi-brand-distributional-efficiencies-fdi](http://articles.timesofindia.indiatimes.com/2013-02-23/india/37256431_1_multi-brand-distributional-efficiencies-fdi).

<sup>48</sup> Ministry of Finance, "Union Budget Speech", 2013–2014.

<sup>49</sup> Biswajit Dhar, "Gold as a convenient villain", *Live Mint*, March 11, 2013.

investment of all shades may even be contributing to its widening. Since one does not believe that the policy makers are so naïve, one even wonders whether current account deficit (CAD) is being used as a red herring to push through FDI.

On the other hand, an area of major concern is the support extended by the major industry associations to RFDI. It is a clear indication that they have moved far way from small businesses whether in manufacturing or in trade. Their plans to free ride on the back of FDI companies will be transitory. Worse still, some of those who are already in may even be hoping to cash out.

**Part IV**  
**Indian Experience with Organised Retail**

# Chapter 11

## Organized Fresh Food Retail Chains Versus Traditional Wholesale Markets: Marketing Efficiency and Farmers' Participation

Seema Bathla

### 11.1 Introduction

The agricultural marketing system under the aegis of the Agricultural Produce Marketing and Regulation Act 1966 has yielded to change in accordance with the amendments laid down in the Model Agricultural Produce Market Committee (APMC) Act 2003. As of now, as many as 19 states have initiated reforms, major ones being (i) phasing out restrictions on the movement of agri-produce and compulsion on growers to sell in regulated markets, (ii) allowing contract farming and direct marketing between farmers and corporates, (iii) setting up of electronic exchange linked with future markets for proper price discovery and (iv) facilitating processing and value addition. Policies that support investment in terminal markets, mega food parks having a 'farm-to-fork' approach and farmers' markets in line with Rythu Bazars and Uzhavar Sandies are also being promoted. The underlying rationale is to develop an efficient agri-marketing system with both back-end and front-end linkages between the growers and the industry that enables farmers to receive a fair price for their produce and consumers to realize value for their money.

Consequent upon these initiatives, which are also supplemented by changes at the macro-level due to liberal trade, faster income growth and urbanization, and alterations in food demand patterns, some corporate-driven and government-supported marketing models have sprung up in many states. Contract farming, initiated mainly for specific crops for processing and value addition, organized fresh food

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retailing and IT-based wholesale formats are a few cases in point, which appear to be gaining ground. Since each of these structures operates differently across states and commodities, they are not comparable. However, it does indicate a considerable change in the way agriculture produce has been sourced and marketed traditionally.

Recognizing that the entire organized food retail industry is in the initial stages of development,<sup>1</sup> procurement operations and distribution strategies being adopted for fresh food may not be pronounced. The organized fresh food retail chains (OFFR) source commodities either from consolidators and wholesalers in government-run regulated markets or directly from the farmers based on an informal contractual arrangement. The retail companies have their own collection centres for grading, sorting and packaging of fresh fruits and vegetables (FV). However, if backward linkages for direct purchase are initiated, companies have to ensure a regular supply of produce and its quality. Though quality and other standards are evidently visible when the produce is bought from wholesalers, procurement by companies in the APMC markets is subject to various legislative controls and regulations such as obtaining licenses and paying market fees.

While corporates are making inroads into this sector, and farmers are beginning to participate in the supply chain, apprehensions continue as to whether these upcoming platforms would transform the existing agriculture marketing system for a greater benefit of farmers and also consumers. Farmers' participation is largely based on mutual trust despite the fact that retail companies do not provide inputs and other services to them as is practiced by many corporates engaged in contract farming for value addition of agri-produce. The companies inform the respective state *mandi* (wholesale regulated market) boards before starting contracts with farmers and regularly pay market fees on the procured output. But the procedure and mechanism in a situation of renege by either party have not been properly framed to date. Also, risks on account of production and price are, by and large, borne by the growers. Besides these, some other issues that merit attention in this regard are as follows:

- (1) Do the newer marketing channels ensure better price discovery, efficiency, higher income and productivity, especially to the small and marginal farmers compared to the existing unorganized and wholesale markets?
- (2) To what extent do the emerging formats involve farmers in making decisions about crops to be grown, quantity and price of the crops and magnitude of diversification towards high value crops?
- (3) What are the challenges in terms of resource and labour endowments in evolving a sustainable cropping pattern that caters to organized fresh food retail chains?
- (4) Are small land holdings viable for growing FV crops? In what ways can risk associated with production and price of perishables be reduced?

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<sup>1</sup> The organized food retail penetration is hardly 6% in the total retail business of which business in fresh fruits and vegetables (FV) is miniscule but represents an untapped potential (India Retail Report 2007). Reliance Fresh, Bharti Delmonte, Aditya Birla Group, Mother Dairy Fruits & Vegetables Ltd. (MDFVL) and Nilgiris are a few companies dealing in fresh food.

- (5) Is there any provision for technological upgradation and other services by the company to small farmers?

Literature indicates that corporate-driven procurement and distribution system of agri-produce is evolving fast and is found to be having a mixed impact on farmers so far. Among many, Kumar (2006) and Singh (2000 and 2013) have highlighted significant gains to farmers in terms of technological innovations, improvement in productivity and higher income. These studies are region specific and indicate differential impact across different sizes of land holdings. It is contemplated that contract farming, as has been initiated by a few multinationals for specific crops, accommodates mainly the medium and large farmers. The small and marginal farmers who are thus marginalized need more interventions through extension services, better quality of seeds and other inputs. Chengappa (2006) and Chengappa and Nagaraj (2005) have found that the wholesale format in Bangalore, also known as SAFAL, has enabled farmers to realize 10–15% higher profit compared to the traditional channel and also reduced marketing from 8 to nearly 4%. However, there are some constraints like compliance of certain quality standards, dependence on commission agents for selling low-quality produce, location disadvantage and inconvenient auction timings.

As regards organized fresh food retailing, research is still in the initial stage. It is argued that procurement of agri-produce by organized retail chains is expected to change not only the method of farming but also the existing marketing arrangements. Acharya (2004), IFPRI (2009) and Acharya and Agarwal (2011) have highlighted that farmers selling in regulated markets do not get their due share due to a long chain of intermediaries, lack of transparency in auction and hence fixation of prices, hassles in transportation and high marketing cost. Raju and Venkateswarlu (1989) have found that marketing efficiency is higher in case of banana when farmers sold directly to retailers than to preharvest contractors and commission agents in Guntur district of Andhra Pradesh. The producers' share in the consumers' rupee has varied from 45 to 57% across the channels. Along with the presence of multiple players in the wholesale markets, the market committees have failed to provide adequate facilities such as water, sheds and stay, which further add to farmers' woes (Gandhi and Namboodiri 2006).

At the same time, farmers selling to OFFR have received higher prices for their produce due to a fewer number of intermediaries (Chengappa 2006; Chengappa and Nagaraj 2005). The retail chain channel has enabled farmers in Haryana to fetch a higher share in consumer rupee by 7–23% compared to that in the wholesale markets (Bathla and Sharma 2011). Among many, Kumar et al. (2008), Reardon and Gulati (2008), Sreenivasa (2007) and Gopalakrishnan and Sreenivasa (2009) have reiterated that the emergence of OFFR may benefit growers due to adoption of higher-quality inputs, advanced technology, better infrastructure, shift to high-value FV crops and higher productivity.

Needless to say that such perceived gains are contingent upon accessibility of inputs, credit, labour and other resource endowments to farmers for cultivation of FV. Retail operations are undertaken at a small scale with the result that the farm-



ers continue to depend on wholesalers and village traders, which points towards a need for upgradation of infrastructure and trade practices in the traditional markets (Bathla and Sharma 2011; Sulaiman et al. 2011). The organized retail format is also condemned due to an informal nature and type of contractual arrangement being designed for supply of commodities and limited proportion of procurement of output. There is hardly any risk-coping strategy for the small and marginal producers growing perishables and complete lack of information on many aspects (Singla et al. 2011). It is suggested that farmers can improve their bargaining power by working collectively or forming cooperatives, which would go a long way in sustaining their interests, especially of smallholders participating in the supply chain.

The chapter is organized into five sections. Following the introduction, Sect. 11.2 elicits the source of data and methodology used. Section 11.3 furnishes details on the functioning of organized fresh retail chains engaged in contract for procurement in Haryana and alternate marketing channels being adopted by farmers to market their produce. Section 11.4 provides estimates on marketing cost and efficiency realized by contract and noncontract farmers under different channels. It also examines the price and production risks and main reasons for their preference to supply to OFFR using the probit function. The last section concludes and draws broad implications.

## 11.2 Objectives of the Study and Database

Having reviewed some broad facts on organized fresh food retailing, this study makes an attempt to estimate and compare marketing efficiency of farm households (HH) selling to OFFR and to wholesalers in the wholesale markets, factors that influence their preference to supply to the former and risk involved. The analysis is based on primary data collected from 380 HH in Haryana in the crop year June–July 2009. It is carried out separately for contract and noncontract HH across farm size and major crops grown with a view to assess the participation of small, medium and large land holders in OFFR and differences in prices received by each.

The farm HH selected for the primary survey are limited to four districts in Haryana, namely Sonipat, Panipat, Karnal and Kurukshetra, due to a greater concentration of procurement centres of Mother Dairy Fruits and Vegetable Ltd. (MDFVL)<sup>2</sup> and Reliance Fresh. While MDFVL has been running 12 procurement centres in the selected surveyed villages from the year 2000, Reliance Fresh has initiated its operations in 2005–2006. Initially, 31 farmers were part of the MDFVL supply chain with 10 additional acting as temporary members, and their number

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<sup>2</sup> MDFVL is a public sector organized retail chain which has been in business since the late nineties. From early 2000, it has become a 100% owned 'subsidiary company' of the National Dairy Development Board for FV. The company procures fresh produce from farmers for retail operations in its outlets in Delhi and also undertakes processing for making juice, jam, etc.

increased to 98 by early 2007. Of the total farmers supplying to MDFVL, 52% belonged to the small and marginal category as per the size of their holdings<sup>3</sup>.

At the outset, a list comprising names and addresses of farmers along with records of net operated area devoted to contractual and noncontractual crops was prepared. From each district, a block where procurement of FV is the maximum was selected. In the next stage, three villages were selected from the endemic areas. A systematic circular random sampling method was adopted to select HH so as to proportionally represent various farm sizes. A sample of 35 HH from each village having contracts with retail chains was selected, and then a matching sample of almost the same size was selected who sell only in the traditional markets only. The selected HH were further categorized into three subclasses by farm size, namely small, medium and large. Since only a few farmers were found to be regularly supplying to Reliance Fresh, the analysis was confined to those supplying to MDFVL to avoid sampling bias.

### ***11.2.1 Household Characteristics, Net Operated Area and Area Under Contract in Haryana***

Table 11.1 shows broad characteristics of the farm HH in the sample. Out of 380 HH, 204 (53.7%) were retail contract farmers as they sell a part of their produce to OFFR, and the remaining 176 (46.3%) HH were not involved in any contractual arrangement and hence classified as noncontract farmers. The distribution of HH is based on net operated area (owned area plus net of leased-in and leased-out area) which takes into account three land size categories, namely, small, having 0–5 acres, medium, having an operational area from 5.1 to 10.0 acres, and large, operating on above 10 acres. Nearly 52% are small and marginal farmers followed by nearly 25% each as medium and large farmers. Among contract farmers, 49.5% are small holders, which corroborates their participation in retail chains in a big way, possibly to earn an additional income through cultivation of FV. Among medium farmers who constitute 25.49% of the total, 54.7% are contract farmers, and 45.3% are noncontract farmers. Large farmers constitute 22.4% of the total sample, and their share in the contract and noncontract categories are 25 and 19.3%, respectively. Nearly 60% of the large farmers have a contract with the retail chain. This indicates that as farm size increases, the share of contract farmers in total HH may go up. The average family size of both contract and noncontract HH is found to be seven. Across farm size, small and large contract producers have relatively more family members. The average years of schooling of the head of the HH is nearly 8 years, revealing small farmers to be slightly less educated compared to medium and

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<sup>3</sup> Farmers revealed that the size of the holding does not hold importance in this informal contract as the company is concerned about the required quantity and quality of the produce irrespective of whether it is sourced from small, medium or large landholders.

**Table 11.1** HH size, net operated area (acres) and percentage of area under contract in Haryana

Farm size/ category of HH	Sample HH		Average HH size (no.)	Head of HH		Net oper- ated area (acs)	Total own area (acs)	Leased-in area as % of NOA	Gross cropped area (acs)	Crop ping intensity (%)	% age area under contract
	No.	%		Education level	Average age						
<i>Contract HH</i>											
Small	101	49.51	7	6.7	45.3	2.9	2.2	24.1	5.4	186.21	18.52
Medium	52	25.49	6.1	8.6	42.1	7.4	5.9	20.3	13.5	182.43	12.59
Large	51	25.00	8.1	8.7	46.2	19.7	13.1	34.5	36.7	186.29	8.72
All	204	100.0	7.1	7.7	44.7	8.24	5.9	29.3	15.3	186.59	12.42
<i>Noncontract</i>											
Small	99	56.25	6.3	5.7	44.8	3.1	2.0	35.5	5.4	174.19	—
Medium	43	24.43	7.3	6.4	45.2	7.7	4.5	42.9	13.6	176.62	—
Large	34	19.32	9.2	7.5	49.7	27.2	16.8	39.0	46.6	171.32	—
All	176	100.0	7.1	6.2	45.8	8.9	5.5	39.3	15.4	173.03	—
<i>All HH</i>											
Small	200	52.53	6.7	6.2	45	3	2.1	30.0	5.4	180.00	—
Medium	95	25.0	6.7	7.6	43.5	7.5	5.3	30.7	13.5	180.00	—
Large	85	22.37	8.5	8.2	47.6	22.7	14.6	36.6	40.6	178.85	—
All	380	100.0	7.1	7	45.2	8.5	5.7	34.1	15.3	180.00	—

HH households, NOA net operated area

large farmers. The average age of the head of the contract and noncontract HH is 45 years and shows slight variations among the three farm size categories.

The average net operated area (NOA) is 8.5 acres, of which 66% is owned, and the balance is the net of leased-in and leased-out area. About 14.5% of HH have leased-in area to the extent of 34% of the operated area. The NOA of contract farmers is lower at 8.24 acres compared to 8.9 acres for noncontract farmers, and the area owned is higher at 5.85 acres for the former as compared to 5.48 acres for the latter. In other words, the percentage of leased-in area is slightly lower in the case of contract farmers, that is, about 29% compared to noncontract farmers who have 39% leased-in operated area. Incidence of leasing is directly related to farm size, which implies that large producers tend to lease-in more, thus pointing towards reverse tenancy in the state. Tenancy among noncontract farmers is higher than among contract farmers. The average NOA is 8.54 acres, which is 100% irrigated due to the ownership of a bore well by each HH.

Gross cropped area (GCA) is found to be a little less than twice the net operated area with the result that cropping intensity turns out to be 180.13%. Data show very little variation in the intensity of cropping across various farm size categories. However, it differs across contract and noncontract farmers showing the former to have higher intensity at 187% compared to that for the latter at 173%. It also divulges differences in the cropping pattern among contract and noncontract HH and a judicious use of land by the former to realize gains from the evolving crop diversification. Another aspect worth noting is that contract farmers have devoted only 12.42% of the GCA to FV, and the remaining 87.58% is under noncontract crops which comprise mainly wheat and paddy. It is further observed that the percentage area devoted to contracted FV crops is inversely related to farm size. In other words, small producers have relatively more share of GCA under contract crops at 18.5% as compared to medium and large ones at 12.6 and 8.7%, respectively. This also indicates that large farmers have devoted more area to cereals compared to small farmers who tend to cultivate more FV.

### **11.3 Marketing Channels Adopted for Major Crops by Contract and Noncontract Farmers**

Farmers in the surveyed villages have adopted four broad channels to market their produce, namely, (a) wholesale regulated market (also called *mandi* in the local language) in Gohana and Ganuar in Sonapat district and Azadpur, Delhi; (b) MDFVL, also called SAFAL; (c) 'Reliance Fresh' and (d) village traders. MDFVL maintains data bases of the area cultivated by member farmers, crops grown in each of the chosen village and feasibility of cultivating seasonal FV. Before the sowing season, the company asks members (temporary and permanent) of the group to fill a proforma, called '*Sowing Master*', which lists area to be devoted to FV by each farmer, sowing plans and timings of availability of harvested crop. A proper inventory management enables the company to know the availability of each item from a particular village.

It also informs the farmers ahead of the sowing season about the quantum of crop output that would be required and hence procured. The company arranges to take the produce from the farmers on specified days and pays a slightly higher price than prevalent in the wholesale markets to make up for fresh produce of grade A quality.

The company's representative is responsible for the transportation of FV from the collection centres in the villages to the company's premises and the payment of the market fee to the designated market committee in that district. Payments are made to members through cheque within a fortnight. If on a particular day, farmers find prices of FV to be below the rate prevailing in the *Gohanamandi* or *Ganaur-mandi*, they exercise the option of not selling to MDFVL.

The farmers are well connected with wholesale markets in the district as well as Azadpur market in Delhi and have proper marketing infrastructure to transport and sell the produce. Farmers prefer to sell their produce immediately after the harvest. Through mobile phones, they contact wholesalers/commission agents in regulated markets to get information on commodity prices on a day-to-day basis. When the produce is taken to the designated market, farmers bear packing and unloading costs and sell it to the primary wholesaler (also called commission agent or *kutcharthiya*), who in turn sells to the secondary wholesaler called *puccarthiya*. The latter, after paying the market fee specified for each commodity to the market committee, sells the produce to retailers and wholesalers in other markets, the major one being Azadpur in Delhi. Clearly, the produce is passed through a long chain of intermediaries before reaching the final consumer. The price of each commodity is determined every morning through auction.

Table 11.2 shows the percentage of farmers who access alternate marketing platforms for sale of output. Taking all the crops together, a majority (76%) of the noncontract farmers market their produce in the wholesale markets within the state, namely Gohana and Ganuar, 21% approach village traders and only 3% sell the produce to wholesalers in Delhi market. Crop-wise information reveals that paddy and wheat are transacted mainly through commission agents and village traders. Nearly 54% of farmers approach wholesalers for paddy and wheat and 45% sell to traders in the village itself. Commission agents in Delhi market are approached by 10% of farmers for the sale of potato, 6% for lady finger, 17% for carrot, 20% for zucchini and 25 and 67% for mustard and gram, respectively. Clearly, a large number of farmers sell horticultural crops to commission agents/wholesalers in wholesale markets operating in the state.

In contrast to 75% of noncontract farmers who have approached wholesalers in *Gohanamandi*, only 46% of the contract farmers have opted for this channel. Of the total, 49% use MDFVL, 3% approach village traders and 1% each Delhi market and other channels. Paddy, wheat, potato, mustard and sugarcane are sold mainly in the wholesale markets in Haryana.

Farmers that have a contract with OFFR for the supply of FV bring 100% of the produce to the collection centre located within the village. Only 4% go to wholesale markets either to get better prices or sell surplus produce that is not taken by OFFR. In the case of onion, 45% approach wholesalers in Haryana markets, 37% sell to MDFVL and 9% each to village traders and the wholesale market in Delhi.

Table 11.2 Marketing channels adopted for sale of agricultural crops in Haryana (percentage of farmers)

Crop	Noncontract HH						Contract HH					
	Wholesale Delhi	Market Haryana	Village trader	Other	Total	MDFVL	Wholesale Delhi	Market Haryana	Village trader	Other	Total	
Paddy	-	54	45	1	100	-	-	98	2	-	100	
Wheat	-	53	43	4	100	-	-	89	9	2	100	
Potato	10	76	14	-	100	-	-	100	-	-	100	
Onion	-	78	22	-	100	37	9	45	9	-	100	
Lady finger	6	88	6	-	100	96	4	-	-	-	100	
Tomato	-	100	-	-	100	86	8	4	2	-	100	
Capsicum	-	100	-	-	100	100	-	-	-	-	100	
Brinjal	-	100	-	-	100	100	-	-	-	-	100	
Cauliflower	-	100	-	-	100	95	-	3	2	-	100	
Cabbage	-	93	7	-	100	100	-	-	-	-	100	
Carrot	17	83	-	-	100	77	16	-	7	-	100	
Radish	-	100	-	-	100	100	-	-	-	-	100	
Spinach	-	100	-	-	100	100	-	-	-	-	100	
Zucchini	20	80	-	-	100	100	-	-	-	-	100	
Bottle guard	3	92	5	-	100	100	-	-	-	-	100	
Cilantro (dhania)	7	93	-	-	100	100	-	-	-	-	100	
Fenugreek leaves	-	100	-	-	100	100	-	-	-	-	100	
Water-melon	-	100	-	-	100	100	-	-	-	-	100	
Cucumber	11	89	-	-	100	100	-	-	-	-	100	

Table 11.2 (continued)

	Noncontract HH				Contract HH			
		100	—	—	100	—	—	—
Musk melon	—	100	—	—	100	—	—	—
Others	6	90	4	—	100	—	—	100
Mustard	25	75	—	—	—	100	—	100
Sugarcane	—	100	—	—	—	100	—	100
Garlic	—	100	—	—	—	—	—	—
Maize	—	100	—	—	—	—	—	—
Gram	67	33	—	—	—	—	—	—
All	3	75	21	1	100	46	3	100

HH households, *MDFYL* Mother Dairy Fruits and Vegetable Ltd.

Most of the crops, namely lady finger, capsicum, brinjal, potato, cauliflower, radish, spinach, musk melon, etc. are marketed solely through MDFVL. Compared to noncontract HH, contract HH do not cultivate garlic, maize and gram.

In sum, the analysis brings forth two key findings. First, compared to noncontract farmers, contract farmers have minimal transactions through village traders, Delhi market and other channels. Second, though cereals are the dominant crops grown by all HH, the cropping pattern of contract farmers differs slightly from that adopted by noncontract farmers. It may be attributed to the presence of OFFR demanding mainly FV for their retail stores located in the capital. A closer look at the total number of transactions that have taken place for each crop also reveals an equal number in cereals and FV by both contract and noncontract HH. Out of a total of 1581 transactions that have taken place in a year, nearly 46% are for cereals and 52% for FV, but the number of transactions by contract HH for vegetables tends to be much higher than that by the noncontract HH (Table 11.3). Among many FV

**Table 11.3** Percentage distribution of transactions by crops in Haryana

Crop	All HH	Contract HH	Noncontract HH
Paddy	19.17	19.74	18.59
Wheat	20.62	21.99	19.13
Jowar	5.19	5.79	4.48
Bajra	1.71	0.59	2.99
Maize	0.25	–	0.54
Gram	0.19	–	0.41
Mustard	0.57	0.59	0.54
Sugarcane	0.7	0.59	0.81
Potato	3.61	1.77	5.7
Onion	1.52	1.77	1.22
Lady finger	7.15	5.56	8.96
Tomato	4.74	6.50	2.71
Capsicum	1.96	0.95	3.12
Cauliflower	0.76	1.18	0.54
Cabbage	2.66	4.49	5.56
Carrot	4.24	3.07	0.81
Radish	2.59	4.14	0.68
Spinach	1.45	2.13	0.41
Zucchini	0.63	0.83	0.68
Bottle guard	1.64	2.48	5.29
Cilantro (dhania)	5.63	5.91	2.04
Fenugreek leaves	1.58	1.18	1.49
Watermelon	1.52	1.54	0.41
Cucumber	0.25	0.12	5.02
Musk melon	3.61	2.36	0.14
Others	0.06	–	7.33
Brinjal	1.14	2.01	0.27
Garlic	4.87	2.72	0.14
All	100	100	100

HH households



cultivated, MDFVL has a greater preference for tomato, cabbage, carrot, radish, spinach, brinjal, garlic and musk melon.

### ***11.3.1 Comparing Marketing Efficiency and Risks Under Organized Fresh Food Retail Chains and Traditional Channels***

Marketing efficiency can be estimated through operational and price efficiency. While operational efficiency is measured by analysing the structure of markets, price spread and marketing cost incurred by each intermediary in the marketing channel, price efficiency is based on movement of commodity prices across spatial and vertical systems. Many studies have found that despite a well-connected system of wholesale markets within and across the states, a long chain of intermediaries along with inadequate marketing infrastructure has resulted in high marketing costs and fluctuations in commodity prices, especially of perishables. The findings on spatial price transmission are mixed across the commodities, revealing an improvement mainly in case of cereals compared to noncereals and FV.

With an aim to determine marketing efficiency, we have computed marketing cost incurred and net price received for crops grown by farm HH supplying to OFFR as well as other marketing channels. The marketing cost and price received are noted for each crop grown to arrive at the average price as well as the weighted price. The exercise is carried out across farm size categories of farmers under contract with OFFR and otherwise. It is expected that the direct procurement system through OFFR lowers marketing cost and ensures better prices to farmers compared to the traditional marketing system.

Table 11.4 shows that more than 94% of the produced output is marketed, and the balance is retained for self-consumption and other household uses by farm HH. As expected, the share of marketable output is directly related to farm size showing it to be 87.7% in the case of small farmers and higher at 97.6% for large farmers. The scenario does not change much across contract and noncontract HH. The average per acre yield is slightly higher at 31.28 quintals for contract farmers compared to that for noncontract farmers at 29.90 quintals. In terms of value, contract HH from all farm size categories have experienced higher productivity averaged at ₹ 32,236 than that obtained by noncontract HH at ₹ 28,846, and the difference is statistically significant at one percent level ( $t=4.04$ ). One may also note that though contract HH obtain better returns than that received by noncontract HH, within the two groups it is the large farmers who earn the highest (₹ 33,212 and ₹ 29,770) when compared to the other two categories of farmers.

The analysis of marketing cost presented in Table 11.5 reveals that noncontract farmers incur higher cost mainly on account of transportation cost as they take the produce mainly to the wholesale markets. Whereas marketing cost of contract HH is relatively six times lower due to the presence of MDFVL within the village for on-farm procurement. The estimates across farm size show transportation cost to be

**Table 11.4** Output marketed and value of output (₹) from agriculture in Haryana

Farm Size	Output (₹)	% Output marketed	Yield per GCA (₹)	Yield per NOA (₹)
<i>Contract</i>				
Small	164,845	88.15	30,527	56,843
Medium	419,310	93.22	31,060	56,663
Large	1,218,883	97.23	33,212	61,872
All	493,218	94.67	32,236	60,149
<i>Noncontract</i>				
Small	141,048	87.19	26,120	45,499
Medium	396,603	92.55	29,162	51,507
Large	1,387,259	97.95	29,770	51,002
All	444,230	94.83	28,846	49,914
<i>All HH</i>				
Small	153,066	87.73	28,345	51,022
Medium	409,032	92.95	30,299	54,538
Large	1,286,234	97.57	31,681	56,662
All	470,529	94.73	30,754	55,356

HH households, GCA gross cropped area, NOA net operated area

**Table 11.5** Marketing cost of agricultural commodities in Haryana (₹ per quintal)

Farm size	Transportation	Packaging	Loading/unloading cost	Commission, etc.	Total
<i>Contract HH</i>					
Small	4.82	1.28	0.31	0.06	6.47
Medium	6.64	2.31	0.22	–	9.18
Large	7.54	3.32	0.002	–	10.86
All	6.88	2.75	0.10	0.01	9.74
<i>Noncontract HH</i>					
Small	49.62	–	0.22	–	49.84
Medium	49.22	–	0.07	–	49.29
Large	48.19	–	–	–	48.19
All	48.63	–	0.05	–	48.69
<i>All HH</i>					
Small	25.52	0.69	0.27	0.03	26.51
Medium	24.46	1.34	01.16	–	25.97
Large	26.37	1.78	0.001	–	28.15
All	25.84	1.50	0.08	0.01	27.42

Average based on marketable produce

HH households

lower at ₹ 6.47 per quintal for smallholders compared to nearly ₹ 10 per quintal for medium and large holders. The marketing cost constitutes nearly 1% of the gross price received by contract HH compared to 5% of gross price received by noncontract HH. It is evident that though all farmers seem to gain in terms of reduction in

transport cost under the contract, the small farmers are found to have benefitted the most, providing evidence in support of marketing efficiency through OFFR.

To what extent has a reduction in marketing cost due to OFFR enabled better prices to farmers? To gauge this aspect, we have estimated price efficiency based on weighted and average net price received by noncontract HH and compared with that obtained by contract HH from OFFR for contracted crops and from other channels for noncontracted crops. The estimates furnished in Table 11.6 reveal that contract farmers fetch 98.8% of the gross price compared to noncontract farmers who are able to get 93.5% of gross price for their produce. The retail contract farmers certainly get a higher average price for their output (₹ 1023 per quintal) compared to noncontract farmers (₹ 954 per quintal). The estimated weighted price is also higher at ₹ 845 per quintal (₹ 952 per quintal for contract FV crops and ₹ 763 per quintal for noncontract crops) than ₹ 700 per quintal obtained by noncontract farmers. But this price difference is found to be statistically insignificant, except for large land size holders and that too at 10% level of significance ( $t=1.72$ ) only.

Commodity-wise estimates also reveal the net price to be more than 90% of the gross price received by both contract and noncontract farmers and hence higher marketing efficiency under various channels. However, contract farmers have received a somewhat higher net price for each commodity, which may be explained by differential cropping pattern, quality of produce, better price offered by OFFR and lower marketing cost due to pick-up facilities. Since the net price does not seem to differ much across farm size, these results also negate the argument given in the literature on price discrimination against small and marginal farmers. Kumar (2007) has argued that equal market participation by all sizes of farmers in Haryana maybe due to better transportation facilities and information network systems. The presence of OFFR in the state seems to be contributing towards this.

Despite realization of higher net prices, many contract farmers have reported rejection of produce by MDFVL on grounds of quality and also their continued dependence on wholesalers to sell surplus or rejected produce. Based on the observations in the field, a 10% rejection of marketable output is factored in to see the magnitude of marketing efficiency. The last two columns in Table 11.6 show the weighted and average net price received by contract HH for their produce after factoring in rejection. It is slightly higher than the price obtained by noncontract HH, which implies that farmers supplying to OFFR get more or less the same price as received by farmers selling to wholesalers in *mandis*.

Farmers supplying to OFFR also bear a greater risk on account of variation in prices, which is certainly higher for contract crops compared to noncontract crops. Besides price risk, production risk is also apparent from a higher coefficient of variation in the value of output for all categories of farmers under the contract and for contractual and noncontractual crops (Table 11.7). This may be explained by the fact that FV cultivation, which is mainly under retail contract, is more labour intensive and also faces higher variability in production and prices compared to cereals and other crops.

**Table 11.6** Pricing efficiency across all crops based on average and weighted prices in Haryana (₹ per quintal)

Farm size	Non contract		Contract		Noncontract		Contract		Contract farmers receive	
	Non contract	Contract crops	Noncontract crops	Average price	Average price	Contract	Contract	Weighted price	Average price	
	<i>Weighted gross price</i>									
Small	721.82	877.13	822.84	803.64	845.58	888.97				
Medium	958.74	903.34	967.51	902.54	1090.75	1005.00				
Large	738.24	846.36	943.46	842.37	944.58	1068.97				
All	748.91	854.81	962.40	811.88	954.18	1023.98				
	<i>Weighted net price</i>									
Small	671.98	870.66	816.37	753.80	795.74	882.50	754.14		793.60	
Medium	909.45	894.17	958.33	853.25	1041.46	995.83	887.98		895.33	
Large	690.05	835.50	932.60	794.17	896.39	1058.10	857.77		951.21	
All	700.22	845.08	952.66	763.20	905.49	1014.24	880.99		911.84	
	<i>Net price as % of gross price</i>									
Small	93.10	99.26	99.21	93.80	94.11	99.27				
Medium	94.86	98.98	99.05	94.54	95.48	99.09				
Large	93.47	98.72	98.85	94.28	94.90	98.98				
All	93.50	98.86	98.99	94.00	94.90	99.05				

Based on marketable output and marketing cost. Net price = gross price – marketing cost

**Table 11.7** Risk in farming based on total value of output (₹)

Farm size	Noncontract	Contract	Contract HH	Contract HH
	HH	HH	Contract crops	Noncontract crops
Small	64.83	79.20	104.38	78.92
Medium	101.05	113.01	140.47	112.45
Large	113.47	147.52	183.63	127.40
Total	106.24	149.00	184.61	130.82

HH households

### 11.3.2 *Explaining Marketing Efficiency and Farmers' Participation in Organized Fresh Food Retail Chains Using a Probit Model*

Literature has pointed out that many contract farming projects fail due to either poor design of the project or default by any of the contracting parties and delayed payments. It could also be due to adverse selection and moral hazard problems in contracting, which need to be managed in order to make farmers deliver as per the contracted terms and conditions. Both companies and growers try to improve their own positions, as part of negotiations, which change over time (Kumar 2006; Haque 2000; Rangi and Sidhu 2000). Clearly, a number of factors influence farmers' decisions to engage in a contract.

As envisaged by farmers, the main benefits of contractual arrangements with retail companies, though informal, are better prices for their produce and higher income, lower transportation and marketing cost, timely payments and transparency, new farming skills and soil management and no distress sale, which often happens in *mandis* for perishables. The contracts are also preferred as they give them bulk sales outlets and lower transaction costs as many transactions are internalized by the procuring firms. At one point of time, some effort was also made by MDFVL to provide seeds at reasonable rates, which did not meet much success. Sometimes, rejection of produce acts as a deterrent. Besides, farmers under contract have to go to wholesale markets to sell commodities other than that demanded by the company and for the leftover produce that is sometimes not taken.

The empirical exercise based on the probit model validates some of these factors to have played an important role in farmers' decisions to opt for OFFR. The dependent variable is taken to be 1 and 0, which indicates participation and non-participation, respectively, by farmers in OFFR. Independent variables include productivity represented by value of marketed output per acre, transportation cost, number of labour days used, family size and age and education of HH. Labour days and family size are taken to capture the impact of labour endowments as FV cultivation is highly labour intensive and may require more labour days and also involvement of family members.<sup>4</sup> The last two independent variables are taken to represent experience

<sup>4</sup> The estimated number of labour days by contract HH growing more FV is higher at 195 compared to 158 for noncontract HH.

**Table 11.8** Farmers' participation in OFFR in Haryana (dependent variable: *Farmers' participation in OFFR, Yes-1, No-0*)

Independent variable	Coefficient	Std. Err.	Z	P>z
Productivity (value of marketed output per acre)	1.31	0.24	5.44	0.0
Transportation cost	-0.1.54	0.14	-10.91	0.0
Labour engaged (number of days)	0.011	0.002	7.14	0.0
Family size	0.069	0.036	1.92	0.05
Age of head of HH	-0.007	0.008	-0.88	0.38
Education of head of HH (no. of years of schooling)	0.083	0.023	3.63	0.00
Constant	-3.42	2.26	-1.51	0.13
Number of observations	380			
LR chi2(6)	267.79			
Prob> chi2	0			
Pseudo R2	0.57			
Log likelihood	-110.44			

HH household, LR likelihood ratio, Std. err: standard error

and awareness of farmers regarding OFFR. Since productivity and transportation cost reveal large variations, the model is estimated in two ways: first, by correcting for heteroscedasticity, and second, by taking log and scaling up these two variables. The estimates obtained from both models are found to be consistent.

The empirical results presented in Table 11.8 reveal productivity, labour and family endowments and education to be positive and significant in explaining farmers' choice for OFFR vis-à-vis others. The impact of age is negative but insignificant and that of education is positive and significant implying that better educated people from younger age groups are more amenable to change and taking risks in farming. Transportation cost turns out to be negative and significant, implying that an increase in it would dissuade farmers to approach OFFR. As has been analysed above, pickup vans of retail chains have significantly reduced marketing costs, which otherwise are fairly high. These results validate the literature that farmers' participation in a channel or market is inversely influenced by age, transportation and transaction costs and is directly related to availability of good infrastructure, which is perceptible in the selected districts.

Another variable that has been deliberated upon in the literature is farm size due to the perception that companies give less preference to small holders in the supply chain. The coefficient is estimated to be positive but insignificant in determining farmers' participation in OFFR and was dropped in the final equation. Statistical insignificance of NOA may be explained by the fact that MDFVL is the only steady retail chain in the selected surveyed villages, and the seasonal crops demanded may not be high enough to encourage medium and large farmers to participate. Moreover, a greater participation by small holders in OFFR could be due to higher and quicker returns from cultivation of seasonal FV and labour endowment. Studies have found that horticultural crops generate as much as seven times more income

per unit of land compared with cereals in India (Birthal et al. 2012) and require two to seven times as much labour as cereals (Weinberger and Lumpkin 2005).

## 11.4 Broad Findings and Implications

The agriculture marketing system is poised for a change due to a rapid rise of organized food retail chains. As of now, many companies have initiated informal contracts with farmers for sourcing of produce, which is expected to cut transaction cost and mark-ups, and enable higher price and productivity gains to farmers. This chapter has attempted to examine and compare the magnitude of marketing and pricing efficiency realized by farmers under organized retail chains and wholesale marketing formats, risks faced and the factors that determine their participation in the supply chain. The analysis is based on a primary survey of 380 HH carried out in 2009 in selected districts in Haryana where farmers have the choice to market their produce to village traders, wholesalers in APMC wholesale markets in Haryana and Delhi and two organized fresh food retail chains, namely MDFVL and Reliance Fresh. Both MDFVL and Reliance Fresh have been engaged in an informal contract with farmers for the supply of seasonal FV.

The analysis is carried out separately for retail contract and noncontract HH and reveals that farmers grow as many as 29 crops of which wheat-paddy is the most dominant crop rotation by both groups. Farmers from all sizes of land holdings are engaged in contracts with retail chains, but the number of small farmers is more on the rolls. A greater participation by small producers in OFFR is also demonstrated by a relatively larger share of net operated area devoted to contractual FV crops at 18.5% compared to 12.5 and 8.7% by medium and large producers, respectively. The share of marketable output is directly related to farm size. Cropping intensity and per acre yield turn out to be higher for contract HH than that obtained by non-contract HH. The mean difference in the value of output per acre is estimated to be statistically significant between the two groups and also across farm size at one percent level.

Farmers in the study region have access to multiple channels to market their produce, but their preference is to sell it immediately after the harvest to commission agents and wholesalers in the designated *mandis* located in their district. Sale to OFFR is only for FV being planned and demanded during a year by the company. The net price received depends on many factors, the major one being quantity arrived and demanded each day, quality of produce, distance travelled and transportation cost, storage facilities, borrowings from commission agents and bargaining power in case of sale in regulated markets. Generally, the price offered by OFFR for various commodities depends upon the movement of prices in the wholesale markets in Haryana and Delhi.

The retail contract farmers incur six times lower marketing and transportation cost compared to noncontract farmers. As a result, the net price received by farmers, which is more than 90% of the gross price, turns out to be somewhat higher for

contract farmers at 98%. This indicates that among all the marketing channels being adopted by farmers to sell their produce, higher returns along with an increased marketing efficiency are discernible under OFFR's direct procurement system. As far as pricing efficiency is concerned, all categories of farmers are found to have equal bargaining power.

Despite the fact that farmers having contracts with OFFR get at least ₹ 100–150 per quintal more for their produce compared to those selling to commission agents and traders, the difference in net price is found to be statistically insignificant. Moreover, when rejection of produce by OFFR is taken into account, the difference in average net price received by contract and noncontract farmers becomes negligible, thereby implying that gains from retail contracts are more through improvement in crop productivity. The analysis further reveals that both categories of farmers bear price as well as production risks, but contractual crops tend to have a relatively higher risk compared to noncontractual crops. This may be explained by the fact that cultivation of FV is more labour intensive and volatile compared to cereals, and also the purchase price offered by MDFVL for several FV has high variability compared to their corresponding wholesale prices. Besides higher risk, contract farmers continue to depend on wholesalers in nearby *mandis* for the disposal of surplus and 'not-best-quality' FV. Notwithstanding these factors, they prefer to sell directly to OFFR due to higher returns, better price, reduction in transportation and marketing cost, greater transparency and convenience.

The empirical estimates obtained from the probit model corroborate these findings. Farmers' participation in OFFR is directly influenced by productivity (value of output per acre), which is indeed higher for contract farmers, labour endowments and family size and inversely by transportation cost and age. Procurement facility from the door steps, as has been followed by OFFR, is certainly an added advantage. Farm size does not appear to influence farmers' participation in the retail chain as reported in the case of contract farming by corporates, possibly due to (i) presence of only MDFVL in the study region and hence limited demand and (ii) relatively greater preference of small holders towards seasonal crops due to better and quick returns and family labour endowment.

Following are the broad implications that can be drawn from the findings. Farmers cannot forego the traditional system even if new marketing channels for fresh produce are fully embedded in the system and compete with the prevailing ones. And this would take a longer time knowing that OFFR have not yet penetrated fully and may meet their limited demand for FV by sourcing from wholesale markets. This implies that the traditional marketing system operated by the respective state governments as well as the new OFFR will coexist, thus necessitating an overhauling of the former in line with the latter. Till the time OFFR spread their wings and compete for procurement, wholesalers and village traders may not feel any threat<sup>5</sup>. This obviously calls for a proactive approach by

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<sup>5</sup> The results obtained from another farm HH survey carried out by the author in Simla in Himachal Pradesh reveal that the presence of MDFVL and other OFFR gives tough competition to the wholesalers in the Solan wholesale market where farmers used to take their produce. As a result, commission agents/wholesalers have no other option than to send pickup trucks to the valley for direct procurement of FV. The farmers have also become more aware and are able to bargain properly in the process.



the government to improvise the wholesale marketing system in the state, may be under a public–private partnership as has been initiated in the case of the terminal market SAFAL in Bangalore.

Secondly, some of the problems elicited by contract farmers seem to be similar to the ones pointed out by small-scale producers in several developing countries where OFFR have already made inroads and supply chains have got restructured (Gorton and White 2006; Chen et al. 2005; Reardon et al. 2007). As has been highlighted in these and also in the success stories in the Asia-Pacific region in APAARI-FAO (2008) and Shepherd (2007), growers need to be supported and provided credits, inputs and extension services in order to gain expertise and technical know. In view of risks involved in diversifying to FV and other constraints, they should be encouraged to form organizations or informal groups so that they can understand the emerging trends and are able to fully integrate and get linked with the market.

Certainly, the role of state agriculture marketing boards is imperative, which at present is limited to an authority for issuing licenses and registration of direct marketing and contract farming within the purview of APMC Act 2003. The market committees must take into account that trade in fresh produce is different from that in cereals due to their perishable nature and other risks. It requires robust infrastructure to avoid wastage and hence needs to be delisted from Schedule 1 of Act in the state as has been done in Madhya Pradesh, Uttarakhand and West Bengal. They should also try to provide safety nets such as loans and insurance and address grievances of farmers or invite third-party intervention under the existing informal contractual arrangements between OFFR and farmers.

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# Chapter 12

## Inclusive Fresh Food Retail Chains in India: A Case Study from Punjab

Naresh Singla, Sukhpal Singh and Paramjeet Kaur Dhindsa

### 12.1 Introduction

In recent years, there have been many corporate attempts at linking farmers with markets, including those by fresh food retail chains (RC) in India. Food RCs such as Reliance Retail's (RR) Reliance Fresh (RF), Aditya Birla's More and Namdhari Seed's Namdhari's Fresh, etc., have brought about many changes in the supply chain management and logistics through the use of quasi-formal and formal contracts to ensure timely delivery of products with desired quality attributes, instant demand and supply and more commercial nature of production and marketing at the farmer level. Linking small primary producers with markets has been identified as one of the major issues in policy and practice in improving livelihoods for millions of poor in the developing world.

There are many studies on fresh fruit and vegetable (FFV) RCs in India, which compare the yields and costs of production and marketing of vegetables across RCs and traditional market channels. One such study on cauliflower in Hoskote, Bangalore (Joseph et al. 2008) found that the RC farmers had considerably lower transaction costs and higher cost of production than those selling in traditional markets or *mandis*. Average prices and net returns of the farmers selling to organized retail (directly and through consolidators) were higher than farmers' sales in *mandis*.

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In a similar study on major vegetables—cabbage, cauliflower and tomato in the case of Spencer's, Mangala and Chengappa (2008) found that the food RC farmers attained higher yields than non-RC farmers. The food RC farmers had considerably lower transaction costs and received higher prices for their produce than the non-RC farmers selling in traditional markets. The net profit of food RC farmers over non-food RC farmers in cabbage, cauliflower and tomato was 48%, 40% and 34% respectively.

In case of Mother Dairy Fruit and Vegetable Ltd. (MDFVL), which run procurement operations for spinach in Haryana, contract farmers received about 8% higher prices than those received by non-contract farmers and the net profit among contract farmers was substantially higher than that obtained by non-contract farmers (Birthal et al. 2005). The farmers supplying tomatoes to this chain in Uttaranchal had lower yields (11 t/acre) and higher costs of production to meet quality specifications demanded by MDFVL compared to those selling to private traders, but profit realization was higher among MDFVL farmers due to reduced transaction costs (Alam and Verma 2007). Studies showed that farmers supplying to the organized outlets owned larger land holdings and higher proportion of irrigated land than those supplying to commission agents, wholesalers and shandies/local villagers (Joseph et al. 2008; Alam and Verma 2007; Mangala and Chengappa 2008).

This chapter examines the procurement channels and practices of the RF RC in Punjab, and compares the profile and performance of the RC supplying farmers with traditional market supplying farmers. It also examines the possible policy and regulatory provisions to protect and promote the livelihoods of primary producers in the presence of RCs in Punjab. The sample survey design and methodology of the study is discussed in Sect. 2. Section 3 profiles operations of the RC both at the front end and the back end and procurement from neighbouring areas. Section 4 examines the farmer interface based on a primary survey of growers of two major crops—cauliflower and cabbage by analysing the profiles of farmers working with the chain, their incentives to work with it, and the effect it was able to make on their incomes. Section 5 concludes the paper with major issues emerging from the case study and suggestions for more effective interface.

## 12.2 Methodology

Two separate schedules each were designed and pretested for farmers and RC managers. The retailing and processing operations and supply chain management was the subject of discussions with the RF management; and the procurement effectiveness, costs and returns, problems and benefits of the RC linkage were discussed with the farmers. The sampling frame consisting of about 125 farmers, who supplied vegetables to RF in Jandiala, was prepared with the help of organized RC officials. A stratified random sampling technique was followed to divide the RC farmers' population into farmer category strata. From each stratum, a sample was taken in such a way that the proportion of farmers in each farmer category in the

sample was similar to that in the population. Thus, a sample of 25 cauliflower and cabbage supplying farmers each was taken, as these were the major vegetables being procured by the RF in terms of volumes and number of supplying farmers. Another similar sample of 25 cauliflower and cabbage farmers each in the vicinity of RF selling in the *mandi* (non-RC) was also taken based on the proportion of farmers in each category in each location through stratified random sampling.

## **12.3 Reliance Fresh (RF)—A Profile and Organization of Operations**

### ***12.3.1 Retailing***

Reliance Retail Limited (RRL), a subsidiary of Reliance Industries Ltd. (RIL), was set up to lead Reliance Group's foray into organized retail. The RF, a wholly owned subsidiary of RRL was established on 3rd November, 2006 with its first store in Hyderabad. RF evolved from Ranger Farms which wholesaled FFVs to push cart vendors and other bulk customers. Since then, RRL rapidly grew to operate 700 stores across 13 states by the end of 2007–08 (Singh and Singla 2011). The first RF store in Punjab was opened in Jalandhar in 2008. All RF stores sold the fruits and vegetables (F&Vs). The RC had around 40 convenience stores in Punjab. The size of each store varied between 3000 and 5000 sq. ft. Stores remained open from 8 am to 9 pm all seven days of the week. The average footfalls on weekdays were around 300, while on weekends they increased to 500. All stores were owned and the number of F&V stock keeping units (SKUs) per store ranged between 50 and 60 and occupied about 10–15% of store space. Each RF store was managed by one manager and 14 staff working in two shifts. The employees at the store trained specifically for F&Vs were called the 'F&V champions'. The share of sales of F&V in total sales of RF stores was about 2.5%. Banana bunches were split into bunches of four to six fruits to avoid losses due to handling by the customers in the stores. On an average, a RF outlet sold around 7.5 quintals of F&Vs per day. In addition to the loose selling of onions and potatoes, both were also sold in prepacked form, each pack weighing 2 kg. The chain did not sell any cut and packed vegetables in Punjab. The RF had also adopted a 'market down' strategy in all the stores to clear the unsold F&Vs at a lower price. The store-level wastages were around 12%, including dumping. The unsold F&Vs were dumped. RF stores also stocked their own private label in staples and food under the 'Reliance Select' label.

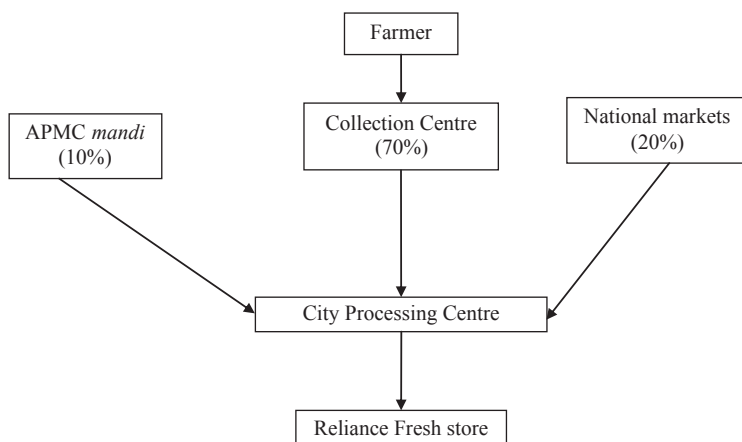
### ***12.3.2 Processing and Distribution***

The processing and distribution of F&Vs was carried out at the city processing centre (CPC) located in Sirhind in an area of about 50,000 sq. ft. The CPC supplied

F&Vs to all the stores of both Punjab and Haryana. The major activities at CPC were: receiving, sorting, grading, allocation and dispatch of F&Vs. The CPC was managed by six supervisors in three shifts and about 20 casual workers also worked per shift. It had the capacity to handle 50–60 t of F&Vs per day. However, daily handling was about 30 t comprising of 10 t of fruits and 20 t of vegetables. All city indents were consolidated and demands placed by the CPC to the CC. The CPC did not have mechanized facilities and all the processing of F&Vs was done manually. The CPC had controlled atmosphere facility only for some imported F&Vs. At the CPC, the produce stayed for a maximum of 12 h. The produce procured from the farmers at collection centre (CC) was graded, put into crates and sent to the CPC which undertook grading, if needed, and did store-wise crating and packing, including cutting and packing F&Vs. Although initial sorting and grading of the produce was done at CC, some vegetables like cabbage and cauliflower were subjected to further shredding at CPC which led to further weight loss of 3–4%. After that, weighing in crates and store-wise allocation of the produce was carried for dispatch to stores. Wastage at the CPC was about 2%. F&Vs were delivered only once a day during the early morning between 2 am and 3 am. Thus, the harvested produce reached the stores the next day, after 12–16 h. Distribution cost varied between ₹ 1 and ₹ 1.5/kg depending upon the location of the store.

### 12.3.3 Procurement

The RF retail had set up the CCs in Jandiala (near Amritsar), Malerkotla and Sirhind to procure F&Vs directly from farmers. The four-wheelers which were used to transport the F&Vs to retail stores were usually used to source F&Vs from CC to CPC. Sometimes, the same vehicle was also used to source F&Vs from the *mandis* to CPC. A RF four-wheeler had the capacity to carry 390 crates (4 t of vegetables). Of the total procurement of F&Vs, 70% came directly from farmers, national sources accounted for 20%, and the remaining 10% was sourced from APMC *mandis* (Fig. 12.1). The direct procurement by the chain resulted in saving of 6% commission at the APMC *mandi*, getting RR grade, consistent quality and regular supply of the produce from farmers. Onions and potatoes were mainly procured from the *mandi*. RF had the APMC wholesaler license to buy directly from *mandi* where they paid a 1% market fee. RF also had some vendors in the Vallah *mandi* in Amritsar who procured on behalf of the RC and supplied to the chain at CPC. About 125 farmers were registered with the CC at Jandiala. The vegetables were procured through oral, informal, non-written ‘contact’ only. The farmers brought vegetables in their own or hired vehicles to the CC. The produce was graded at CC before delivering to the CPC. RF did not provide any crates to the farmers to pack the vegetables. Usually, a fixed quantity of each vegetable was packed in crates. For example, in each crate, 5 kg each of *palak* and *dhania*, 8 kg of cauliflower, 10 kg of cabbage and 15 kg of cucumber was packed. The average F&Vs procured at each CC were 4–5 t/day, delivered by about 30 regular farmers. The first truck was



**Fig. 12.1** Procurement and distribution operations of Reliance Fresh (RF) in Punjab

dispatched from Jandiala CC by around 12.30 pm. This truck also carried tomatoes from the Jalandhar *mandi* while on the way to the Sirhind CPC. The second truck arrived at CC after collecting vegetables from Vallah *mandi* around 12.15 pm, and was dispatched to CPC by around 3 pm. The maximum procurement at Jandiala CC was around 6 t and minimum 2 t per day. Most of the vegetables for the retail stores were mainly procured from the farmers. However, during short supply, these were also procured from the markets near the CCs. Fruits were mainly sourced from Ludhiana, Malerkotla and Chandigarh *mandis*. The main vegetables procured at Jandiala CC were radish, carrot, cauliflower, cabbage, cucumber, long melon, melon, brinjal, bitter gourd and okra. At Jandiala CC, cauliflower and cabbage constituted about 30% of the total procurement and 10% of the total F&Vs in stores.

The daily procurement of cauliflower and cabbage was one tonne each. The minimum procurement per farmer in cauliflower/cabbage was around 400 kg and maximum up to 2 t per farmer. Cauliflower and cabbage were supplied by 15–20 farmers in each crop. Over a period of time, the number of farmers supplying to RF had increased. The chain generally worked with those farmers who could supply good quality of vegetables consistently. The Malerkotla CC procured about 25–30% of cabbage and cauliflower and 15% of okra and radish each of total production of the supplying farmers. The other vegetables procured were carrot, peas, cucumber, brinjal, bitter gourd and bottle gourd. The Jandiala CC procured an average of 10–15 SKUs ranging from a maximum of 20 and minimum of 10, all from 30 farmers.

Sometimes, RF switched from one CC to other CC to procure F&Vs, where the procurement price of some of the F&Vs was lower. For example, in case of cauliflower and cabbage, RF usually sourced from Malerkotla, but if the procurement price of the vegetables was higher at Malerkotla CC and lower at Jandiala CC, then the chain sourced both vegetables from the Jandiala CC. It took two hours from farm to CC, another hour from CC to CPC and 10 h to the store, making for a total time of 12–14 h. These were bought pre-graded by the farmers and CC only did oc-

casional sample quality checks. The chain did not introduce any package of practices for vegetables and provide any agricultural inputs to farmers. The farmers were paid in cash on the spot on a daily basis. Recently, RF has also opened zero balance accounts with HDFC bank and farmers' payments were directly credited into their saving accounts. The backward calculations based on differential cost pricing were made to arrive at the farm gate price for farmers. The farm gate price was generally the APMC *mandi* price minus transportation cost of F&Vs to the *mandi*. Price was conveyed in advance in the morning based on the previous day's *mandi* price.

The CC staff at Jandiala included a CC in-charge and a field in-charge (both regular) supported by five to seven labourers. The labourers were paid by a third party. Generally, there was one labourer for each tonne of F&Vs procured. Procurement cost at CC was determined by volume of F&Vs delivered at CC. Generally, it was around ₹ 0.40/kg plus primary transport cost from CC to CPC. The primary transport cost was around ₹ 0.50/kg. Initially, the rejection rate at CC was around 10%. However, later on, the chain revealed its quality standards to farmers and the rejection rate reduced to 3–4%. The chain also incurred weight loss while transporting produce from CC to CPC. The weight loss was about 2% and 0.5% from CPC to store. The procurement cost for the retail from APMC *mandi* comprised 6% commission, 1% market cess and labour and transportation cost. Thus, the total cost of procurement from the *mandi* was about 8%.

## 12.4 RF–Farmer Interface

The farmer category-wise analysis revealed that about 52% of the farmers supplying vegetables to the RF were small and marginal, compared to only 38% in case of non-RC farmers (Table 12.1). The average size of an operational holding was lower in case of RF farmers (6.2 acres) as compared to 7.6 acres in case of non-RC farmers. However, leased-in practice was higher among RF farmers; about 16% of operated land compared to 11% in case of non-RC farmers. On the other hand, leased-out land as a proportion of owned land was higher in case of non-RC farmers (21%) as compared to among RC farmers (11%). Thus, with leased-in and leased-out practices, the average size of operational holding of RF farmers increased from

**Table 12.1** No. of farmers surveyed across Reliance Fresh (RF) and non-retail chain (non-RC) farmers

Farmer category	RF	Non-RC
Marginal ( $\leq 2.5$ acres)	10 (20)	6 (12)
Small (2.5–5.0 acres)	16 (32)	13 (26)
Semi-medium (5.0–10.0 acres)	15 (30)	19 (38)
Medium (10.0–25.0 acres)	8 (16)	11 (22)
Large ( $> 25.0$ acres)	1 (2)	1 (2)
All	50 (100)	50 (100)



5.8 to 6.2 acres, while that of non-RC farmers decreased from 8.6 to 7.6 acres. The ownership of farm machinery was higher among non-RC farmers as compared to that among RF farmers. The ownership of machinery across both RC and non-RC categories increased with increase in size of the land holding. The family size of the RF farmers was slightly bigger as compared to the family size of non-RC farmers. However, the proportion of family workers working on the farm in each category also turned out to be the higher among RC farmers as compared to that among non-RC farmers. About 90% of RF and non-RC farmers possessed milch cattle. However, the average number of milch cattle was 4.6 in case of RF as compared to 5.6 in case of non-RF farmers. The average number of milch cattle per acre were similar across both RF and non-RF categories. The average monthly income from dairying was higher among non-RC farmers than RF farmers. About 48% of RF households had income from off-farm sources, compared to 38% in case of non-RC households. The proportion of illiterates was about 34% in case of RF farmers as compared to only 26% in case of non-RC farmers. Further, decision-makers in the farming were relatively younger in case of both RF and non-RC farmers. Thus, it can be concluded that the RF RC worked relatively with small growers who were poor in ownership of farm machinery, had low income from cattle and off-farm sources and more illiterates as compared to the non-RC farmers (Table 12.2). The proportion of gross cropped area (GCA) under vegetables in each farmer category was higher among RF farmers as compared to that among non-RC farmers. The share of major vegetables procured, that is, cauliflower and cabbage in total GCA was also higher across RF farmers than that across non-RC farmers. In general, the proportionate GCA under vegetables declined with increase in average size of the operational holdings. Non-RC farmers were mainly growing non-contact traditional crops like wheat, paddy and fodder as compared to the RF farmers. The cropping intensity was also found to be higher among RF farmers than that among non-RC farmers. Thus, RF farmers were the intensive cultivators of vegetables as compared to non-RC farmers (Table 12.3).

#### ***12.4.1 Cauliflower and Cabbage Production and Procurement***

Cauliflower and cabbage were the major vegetables procured by the RC from the farmers. The average yield and cost of production of both the vegetables was found to be higher among RF farmers as compared to that of non-RC farmers. The RC procured only about 25% of quality (A & B) grade produce from RF farmers and the remaining 75% of their produce had to be sold in the local market. RF farmers did not incur any marketing costs for A and B grades sold to RC as it picked the produce from the farm itself. However, the marketing cost for the rest of the produce sold in the market was higher among RC farmers compared to that for all produce in case of non-RC farmers. The net returns were found to be higher for RC farmers mainly due to the higher yield and higher price realization compared to non-RC farmers (Table 12.4).

**Table 12.2** Farmer category-wise distribution of RF and non-RC farmers by socioeconomic characteristics

RC/non-RC farmer	RC						Non-RC					
	Marginal	Small	Semi-medium	Medium	Large	All	Marginal	Small	Semi-medium	Medium	Large	All
Land owned	1.4	2.92	6.25	12.32	38	5.82	1.9	3.75	7.95	16.41	39	8.61
Leased-in (acres)	0.42 [0.04]	0.90 [0.18]	1.08 [0.89]	1.65 [1.47]	2.00 [4.00]	1.00 [0.65]	0.20 [0.40]	0.48 [0.91]	0.70 [2.25]	1.68 [2.59]	2.00 [6.00]	0.82 [1.83]
Operated	1.78	3.64	6.44	12.5	36	6.17	1.7	3.32	6.4	15.5	35	7.61
Leased-in as proportion of operated land	24{3}	25{6}	17{14}	13{12}	6{11}	16{11}	12{21}	14{24}	11{28}	11{16}	6{15}	11{21}
Ownership of farm machinery (%)	2(20)	5(31.2)	8(53.3)	5(62.5)	1(100)	21(42)	2(33.3)	5(38.5)	13(68.4)	7(63.6)	1(100)	28(56)
Trolley	-	3(18.7)	5(33.3)	4(50)	1(100)	14(28)	1(16.7)	3(23.1)	7(36.8)	5(45.4)	1(100)	17(34)
Combine harvester	-	-	1(6.7)	1(12.5)	1(100)	3(6)	-	-	2(10.5)	3(27.3)	1(100)	6(12)
Tubewell	6(60)	10(62.5)	12(80)	7(87.5)	1(100)	36(72)	5(83.3)	9(69.2)	18(94.7)	11(100)	1(100)	44(88)
Electric motor	6(60)	8(50)	10(66.7)	7(87.5)	1(100)	32(64)	4(66.7)	7(53.8)	18(94.7)	10(90.9)	1(100)	40(80)
Diesel engine	3(30)	5(31.2)	8(53.3)	5(62.5)	1(100)	22(44)	2(33.3)	6(46.1)	15(78.9)	9(81.8)	1(100)	33(66)
Potato digger	-	-	5(33.3)	3(37.5)	1(100)	9(18)	-	-	6(31.6)	5(45.4)	1(100)	12(24)
Family size	8.6	8.5	8.8	8.4	8.4	8.6	8.2	8.2	8.5	8.4	8.6	8.4
Average family size	7.4	7.2	6.7	5.8	5	6.3	6.7	6.9	6	5	5.4	6.1
Average farm workers	86	84.7	76.1	69	59.5	74	81.7	84.1	70.6	59.5	62.8	73.1
% of farm workers in family	9(90)	14(87.5)	14(93.3)	8(100)	1(100)	46(92)	5(83.3)	11(84.6)	17(89.5)	11(100)	1(100)	45(90)
Milch cattle	2	3	6.5	7	9	4.6	2.4	3.1	6.8	8	8.6	5.6
Average no./acre	1.12	0.82	1.01	0.56	0.25	0.75	1.41	0.93	1.06	0.52	0.25	0.74
Income (₹/month)	1455	1872	2623	2941	3267	2213	1630	2440	3200	3765	4190	2958
% households	40	37.5	53.3	62.5	100	48	33.3	30.8	36.8	45.5	100	38
Off farm income	1120	1366	1954	2253	2400	1656	1442	1573	2258	2339	2976	2014
Illiterate (%)	40	37.5	33.3	25	-	34	33.3	30.8	26.3	18.2	-	26
Age of the decision maker (years)	43	42	41	42	38	42	45	43	42	42	42	43

Note: figures in [] and {} represent leased-out land; and leased-out land as percentage of land owned respectively.

**Table 12.3** Farmer category-wise distribution of RF and non-RC farmers by cropping pattern and cropping intensity (%)

RC/ non-RC	RF				Non-RC				Cropping intensity	Cropping intensity
	Cropping pattern		Cropping pattern		Cropping pattern		Cropping pattern			
GCA	Cauli-flower	Cabbage	GCA under vegetables	GCA under traditional crops	Cauli-flower	Cabbage	GCA under vegetables	GCA under traditional crops	Cropping intensity	Cropping intensity
Marginal	24.5	18.1	81.9	18.1	14.7	9.8	61.6	38.4	180.6	180.6
Small	18.0	15.4	79.2	20.8	14.1	15.8	55.5	45.5	181.3	181.3
Semi-medium	17.3	13.7	71.2	28.8	10.1	8.7	45.3	54.7	180.6	180.6
Medium	16.3	10.5	61.0	39.0	5.5	5.1	48.9	51.1	178.3	178.3
Large	9.0	6.8	54.8	45.2	—	—	43.5	56.5	177.1	177.1
All	16.7	12.6	68.7	31.3	7.7	7.1	48.4	51.6	179.3	179.3

**Table 12.4** Crop-wise per acre costs and returns of cauliflower and cabbage among RF and non-RC farmers

Crop	Cauliflower				Cabbage			
	RF			Non-RC	RF			Non-RC
Grades	A grade	B grade	Rest	All in mandi	A grade	B Grade	Rest	All in mandi
Yield (qtl/acre)	92.00			86.75	94.5			90.0
Sold (%)	15	10	75	100	15	10	75	100
Quantity sold (qtl.)	13.8	9.2	69.0	86.75	14.2	9.5	70.9	90.0
Price (₹./kg)	8.0	7.0	7.4	7.2	7.25	6.50	6.35	6.0
Gross returns (₹)	11040	6440	51060	62460	10277	6143	45006	54000
Production cost (₹)	34444			30947	32418			29376
Marketing cost (₹)	262.2	174.8	2484	2602.5	269.3	179.6	2551.5	2700.0
Net returns (₹)	5611	2821	22743	28910	5145	2721.2	18141	21924
	31175				26007			21924
Net returns per kg (₹)	3.39			3.33	2.80			2.40

**Table 12.5** Distribution of RF farmers by problems faced in Reliance Fresh (RF) retain chain (RC) linkage (including multiple responses)

Problems faced in RF RC linkage	No. and percentage of farmers reported
Lower indent	30 (76.9)
Procurement of A and B grade produce only	26 (66.7)
Lower price for A and B grade produce	21 (53.8)
Did not provide any crates to pack vegetables	19 (48.7)
Absence of farm picking	16 (41.0)
Willfully higher rejections to curb supply	13 (33.3)
No compensation in the event of crop failure	10 (25.6)
No provision of any agri-inputs	8 (20.5)
Lack of any advance payments	5 (12.8)
Less number of workers at CC	2 (5.1)

Note: Figures in parenthesis indicate the percentage responses to total number of responses.

Though the RF farmers benefitted from the RC, they too faced some problems in marketing their produce. Majority of RF farmers reported that the indented quantity of procurement was low (77%), followed by procurement of A and B grade produce only (67%), lower price for A and B grade produce (54%), lack of crates facility (49%) etc. in that order, were the major problems faced in the RC and farmer interface (Table 12.5). However, the RF farmers expressed that they also benefited by linking with RC marketing for various reasons. RF farmers opined that the major reasons for selling their produce to the RC were: time saving (86%), reduced transportation costs (78%), proper weighing of F&Vs (60%), timely payment (54%), assured price during the day (44%) etc. (Table 12.6).

**Table 12.6** Distribution of RF farmers by reasons for selling to Reliance Fresh (RF) retain chain (RC) (including multiple responses)

Reasons for selling to RF	No. and percentage of farmers reporting
Time saving	43 (86)
Reduced transportation costs	39 (78)
Proper weighing of the FFVs	30 (60)
Timely payment	27 (54)
Fixed price during the day	22 (44)
Reasonable price for the produce	16 (32)
Reduced dependence on commission agents and wholesalers	12 (24)
Lower wastages	10 (20)
Higher income	9 (18)
Introduction of quality norms	7 (14)

Note: Figures in parenthesis indicate the percentage responses to total number of responses.

**Table 12.7** Distribution of RF farmers by opinion on role of government/policy

Role of government/policy	Response of farmers
Regulation of FFV price	17 (65.4)
Opening of more organized retail outlets	15 (57.7)
Remove the malpractices of commission agents and wholesalers in the <i>mandis</i>	12 (46.2)
Improving marketing infrastructure	11 (42.3)
Provide subsidies to the F&V growers	9 (34.6)
Strengthen the extension and training facilities	7 (26.9)
Should practice cooperative production and marketing of F&Vs	4 (15.4)
Interest free loans to vegetable cultivators	2 (7.7)

Note: Figures in parenthesis indicate the percentage of responses to total number of responses

In view of the problems faced by the farmers in (RC) marketing, one should try to understand how best the government helps to resolve the issues involved in the organized retail or unorganized market system. On being asked about the role of the government to make the interface more beneficial, 65% of RF farmers opined that FFV prices should be regulated, followed by 58% who opined opening up of more organized RCs. Some of them suggested the removal of existing malpractices of commission agents and wholesalers (46%) and improving marketing infrastructure (42%) in the traditional marketing system (Table 12.7).

## 12.5 Conclusions

The above analysis of the procurement operations of the RC shows that RF was working largely with less resourceful small vegetable cultivators since they had higher productivity in vegetables and higher GCA under vegetables as compared to

the non-RC farmers. Though the RC paid a higher price for A and B grade produce, it procured only a limited proportion of the grower's crop without any firm commitment and, more, on a day-to-day basis. It did not make any provision for any agricultural input or other services, and did not have any formal contract arrangement with the farmers. The rejected and remaining produce was left for the farmer to dispose off elsewhere (*mandis*). The RF farmers realized higher profits compared to non-RC farmers mainly because of higher yield and higher price realization also in the traditional market. Farmers found the RC better on transaction cost as RF had CC near the farmers' field which saved the farmer's time and cost in selling the produce. Thus, local markets still act as a major market for the producers to sell vegetables. Hence, infrastructure of these local markets should be improved to reduce the post-harvest losses, and markets for F&Vs should be regulated to reduce the exploitation of these farmers in the local markets. Since RCs use these markets to determine their procurement price, a better and quality-based price mechanism which includes open auction, no deductions and undue charges should be put in place in these wholesale markets.

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# Chapter 13

## Is Farmer–Food Retail Chain Linkage Feasible?

P. G. Chengappa, K. P. Mangala and Vijayalakshmi Dega

### 13.1 Introduction

In India, the concept of food retail chains (FRC)/organized food retailing started in the 1990s with the advent of international formats of retailing, especially with the emergence of FRCs, such as ‘Foodworld’, ‘Nilgiris’, ‘Fabmall’, ‘Apnabazaar’, ‘Subiksha’ and ‘Reliance Fresh’ etc. These FRCs have brought in several changes in supply chain management and logistics through the use of quasi-formal and formal contracts to ensure timely delivery of products with desired quality attributes. FRCs in India, due to several factors like their recent origin, local or regional nature of their operations, existing legislation regarding procurement of agricultural produce etc., have not been able to change the procurement systems. Most of the organized FRCs procure their requirements of food grains (cereals and pulses) from the regulated market yards. It is being practiced to comply with the Agricultural Produce Market Committee (APMC) Act, which stipulates that all wholesale marketing activities of agriculture produce should be carried out at a designated market yard, by paying the prescribed market fees and commission charges. Food grains that are procured from the wholesalers at the APMC yards are cleaned, sorted, graded and packed at godowns of the retail chains. Most retail chains repack the commodities under private labels. These FRCs depend on traditional channels of food grain marketing and that their entry has not led to compressing the supply chain or any significant improvement in marketing infrastructure or marketing practices. The situation for fresh fruits and vegetables has been similar. India’s traditional fresh fruits and vegetables marketing is characterized by fragmentation of the supply chain, con-

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centration of market power with the wholesalers, existence of large number of intermediaries, little or no quality control, absence of standards, lack of product innovation, small volume transactions and low inventories. The world over, despite FRCs reaching saturation, the penetration into the fruits and vegetables section is limited (Reardon and Berdegue 2002; Weatherspoon and Reardon 2003). The situation is more precarious in India, where FRCs are of recent origin. However, recently, a few of the FRCs have established backward linkages with farmers for procuring fresh fruits and vegetables. These linkages have been able to change the method of farming as well as marketing arrangements (Chengappa et al. 2007). Towards this endeavour, this chapter reports the results of a study conducted to find the impact of the new institutional arrangement through FRCs on producer's resource-use pattern, income and marketing arrangements.

### **13.2 Institutional Arrangements**

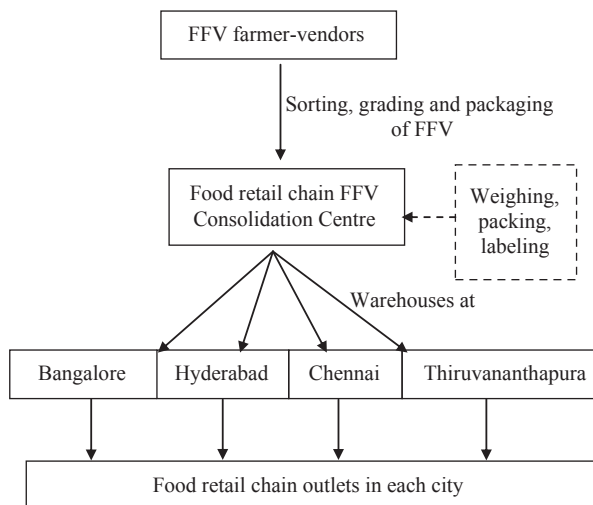
The leading FRC, Spencer's, through the establishment of a consolidation centre at Bangalore, has introduced a novel agribusiness model for marketing of agricultural commodities. To ensure the quality of produce, the consolidation centre provides information on 'good agricultural practices' (GAP) to farmers, who cultivate crops based on these specifications. To ensure good handling of produce, member farmers clean, grade and pack the produce as per retail chain specifications. The packaging materials are provided by the FRC for specialty products and for general packaging. Every pack is labelled, indicating the weight, date of packing, etc.

The farmers selling vegetables to the consolidation centre are responsible for all the post-harvest operations. By shifting responsibilities such as cleaning, sorting, grading and packaging to farmer-vendors, the consolidation centre has been able to reduce the transaction costs of the retail chain. This practice is diametrically opposite to the handling of fruits and vegetables in the traditional markets, wherein they are just dumped in market yards. Thus, a beginning in quality control of fresh fruits and vegetables has been made by the Spencer's. This linkage has been able to change the methods of farming. All categories of farmers—small, marginal and large farmers, through their intensive cultivation have been able to earn higher incomes. In the field survey, it was noticed that the FRC consolidation centre has given priority to have supplies from small and marginal farmers, because of their relative high care in managing farm-scale operations. Since FRCs need a regular supply of small quantities of vegetables, they preferred to establish backward linkages with small and marginal farmers.

### **13.3 Supply Chain Management by Spencer's**

The consolidation centre in Hoskote (in the vegetable production belt) collects about 163 locally grown varieties of vegetables (including some exotic ones), and to a small extent, fruits.





**Fig. 13.1** Supply chain adopted by Spencer's for fresh fruits and vegetables (FFV)

Farmers supply fruits and vegetables to this centre from distances of 50–80 km. The concept adopted by Spencer's is 'Ready to Retail', in which agriproducts are graded and packed in the required form by the suppliers (farmers). The new model of Spencer's has helped in shrinking the traditional supply chain for fresh fruits and vegetables, as depicted in Fig. 13.1.

The consolidation centre covers a radius of 160 km, and currently handles around 20 t of agriproducts per day. At present, it meets only about 70% of its requirement of fresh fruits and vegetables from farmers, and the remaining 30% is procured locally from the modern auction system (MAS) market, established by the National Dairy Development Board (NDDB) through a consolidator. The consolidation centre follows the 'vendor development' model, which is characterized by the absence of intermediaries in the supply chain, i.e. the farmers themselves are the preferred suppliers. In this model, farmers registered with the consolidation centre, are known as 'vendors', and under each vendor, a group (usually ten) of farmer-members (independently) cultivate and supply fruits and vegetables.

The relationship with farmers have been informal, with no written contracts, but are based on oral confirmation of volumes to be delivered. Farmers who wish to register with the consolidation centre should have irrigation facilities. The selection of vendors is also determined by their business management skills. Supply to the centre also involves more formal transaction methods as well as stringent delivery conditions, frequency of supply and quality standards for the product. The registered farmer-vendors collect the produce from other farmer-members and deliver it to the consolidation centre; quality controls in production and packaging being the responsibility of farmer-vendors. At the centre, packed produce is bar coded and transported to the central warehouse in Bangalore, from where it is further transported to other South Indian cities viz., Chennai, Hyderabad, Thiruvananthapura.

The consolidation centre plans to serve as a captive supply centre to meet the requirements of their own outlets, as well as other retail chains, bulk purchasers and processors, which would ultimately benefit the farmers. With plans to set up more retail outlets in major cities, the procurement at the consolidation centre is set to increase. The success of this model (backward linkages directly with the farmers and good quality produce) has motivated several agro-processing industries to procure from this consolidation centre.

### **13.4 Quality Control Practices at the Consolidation Centre**

Quality of produce is maintained at three levels, referred to as quality grading (QG), quality control (QC<sub>1</sub>) and quality care (QC<sub>2</sub>). QG is the concern of the consolidation centre; QC<sub>1</sub> is the maintenance of quality of packed products till they reach the retail outlets, i.e. in loading, transporting and unloading of the produce. QC<sub>2</sub> refers to the quality to be maintained at the display section of the retail outlets. Fruits and vegetables are graded based on uniformity of size, maturity and colour, physical appearance and freshness. The consolidation centre supplies the materials needed for packaging (for both speciality products and general packaging). Farmers themselves carry out grading and packing as it reduces the number of people handling the produce before it reaches the consumers. At the consolidation centre, each packed product is labelled with details like product name, weight and price; some of them are bar coded as per the requirement.

### **13.5 Changes in Cultivation Practices Introduced by the FRC Consolidation Centre**

The FRC consolidation centre has introduced changes in the way crops, particularly vegetables are cultivated. Crops to be cultivated are assigned to each farmer based on the farmer's proficiency and history of production, which is documented at the time of enlistment. Self-investments in irrigation systems are preferred, as it provides the farmers greater control over quality and allows them to produce round the year. A crop calendar is drawn up, keeping in view the requirements of the FRC retail outlets. Once the crop to be cultivated has been decided, farmers are provided with a package of GAP. This package ensures the optimum use of resources with emphasis on minimum use of pesticides. The vendor-leader ensures that the practices are strictly adhered to. Direct supplies by farms also allow the centre to inspect farm and growing practices, first-hand. There is no formal contract or vertical integration for production or marketing under this arrangement. The centre neither supplies any production inputs nor does it formally agree to procure the produce,

which makes the farmers risk-bearers. The centre has no system of providing production credit to the farmers, but helps farmers in procuring inputs from suppliers at reduced rates. Technical guidance on aspects like the time of planting, crop production and management, harvest time, quantity to be harvested per acre, etc., to ensure quality and marketability, are provided by the consolidation centre.

Generally, the centre procures the entire quantity of fresh fruits and vegetables supplied by the vendors, except in cases where the specified quality requirement is not met. During the initial stages of establishment, the percentage of rejection in procurement from farmers was high because the farmers were not accustomed to producing good quality produce in a scientific manner. The large-scale rejection of their produce for failing to meet the quality specifications led farmers to change their cultivation practices, following which the rate of rejection reduced and now stands at 8%. The impact of adhering to GAP and production practices such as staggered sowing introduced by the centre has led to increase in the intensity of cultivation.

### **13.6 Pricing Policy of the Consolidation Centre**

Prices of fresh fruits and vegetables are determined on the basis of the prices prevailing at different markets in Bangalore. The benchmark price is determined by considering the prices prevailing at the MAS market operated by NDDDB, Horticultural Produce Cooperative Marketing Society (HOPCOMS) Ltd. and Krishna Rajendra market in Bangalore. In this mechanism, the consolidation centre ensures a sort of support price even during the glut period in the market, so that farmers do not incur losses. The consolidation centre procures limited quantities from a limited number of farmers. Hence, it has limited liability to each farmer who also cultivates a given crop on a limited area. This produce is bought from FRCs by consumers, who are more quality-conscious than price-conscious. Under this format, the centre ensures input cost plus minimum profit for a limited quantity of produce. During the lean season, farmers naturally benefit from good prices with an assured market. It was found that farmers preferred to supply their produce to the consolidation centre, as it provided them with stable prices and an assured market, compared to the highly volatile prices at the wholesale market.

### **13.7 Field Study: 2005**

The field survey was conducted in 2005 by purposely choosing the consolidation centre operated by Spencer's, the leading FRC, which was established in Hoskote near Bangalore in 1996 for procuring fresh fruits and vegetables. This centre collected about 163 locally grown varieties of vegetables (some exotic varieties also), and to a small extent, fruits. During 2005, the number of farmers registered with

the consolidation centre was small; 19 regular suppliers and 11 seasonal suppliers. To study the impact of new institutional arrangements on a producer's resource-use pattern and income, information was collected on all the 19 farmers who regularly supply vegetables. To compare this system of marketing with the traditional system of marketing, a sample of 30 farmers were selected at random from the same area, and similar information was collected for the study purpose.

### 13.8 Socioeconomic Implications of Linkage of the Food Consolidation Centre with Farmers

Table 13.1 provides the characteristics of FRC farmers as well as those of traditional market farmers. It can be seen that younger and educated farmers had entered into tie-ups with the FRC consolidation centre, which could be due to their enthusiasm and better awareness to take risks and experiment with a new business model. Family size was relatively larger for farmer families associated with the centre compared to the traditional market farmers. Larger family size was advantageous to the consolidation centre, as family labour was totally devoted to post-harvest operations like washing, sorting, grading and packing and labelling, and also reduced the cost on hired labour. The average landholding size of FRC farmers was about 6 acres, while that of non-FRC farmers was 2 acres. It is a clear indication that more large farmers participated in the business model. The share of area under well command was also higher for FRC farmers compared to that of traditional market farmers. The main reason for lower participation of marginal farmers is attributed to their inability to invest in tube wells for irrigation, which the company insisted on, as intensive growing of fruits and vegetables requires water. Gross income from agri-

**Table 13.1** Socioeconomic characteristics of farmers

Particulars	Food retail chain farmers	Traditional market farmers
Number of farmers	19	30
Mean age (years)	39	48
Literates (%)	100	67
Family size (no.)	7	5
Average land holding per farmer (acres)	6	2
(a) Irrigated land	4.5	1.5
(b) Dry land	1.5	0.5
Bore wells per farmer (no.)	2	1
Gross income from agriculture per farmer (₹)	172,000	70,000
<i>Category of farmers (no.)</i>		
Marginal (<2.5 acres)	3 (15.8)	28 (93.3)
Small (2.5–5 acres)	9 (47.4)	2 (6.7)
Large (>5 acres)	7 (36.8)	0 (0.00)

Note: Figures within the parentheses are percentages to the total number of farmers, in columns 2 and 3.

culture of FRC farmers was ₹ 172,000 per annum while that of traditional market farmers was ₹ 70,000 (Table 13.1). The high income for FRC farmers was mainly due to high landholding size and probably also due to improved agricultural practices and growing of exotic vegetables for FRC all year round.

### 13.9 Factors Influencing Farmer’s Choice of Different Marketing Channels

The factors influencing the probability of selecting the FRC marketing channel against the traditional marketing channel was analysed using the logistic regression model<sup>1</sup> and presented in Table 13.2. The probability of ‘selling vegetables’ at the consolidation centre was positively associated with education, ownership of transport and area cropped under vegetables, but negatively associated with age. The coefficients of education, ownership of transport and area under vegetables were found to be statistically significant.

#### 13.10 Cropping Pattern

Crop diversity was higher for FRC farmers than traditional farmers. Along with traditional vegetables, the FRC farmers were also cultivating exotic vegetables, such as broccoli, iceberg lettuce, parsley, leek, red cabbage, Chinese cabbage, coloured capsicum, green onion, turnip, basil, table radish, etc. This diversity in crops had

**Table 13.2** Logistic regression coefficients of determinants of supply to the consolidation centre. Dependent variable: probability that a farmer will supply vegetables to consolidation centre

Independent Variables	b	e <sup>b</sup>	Probability level of significance	Elasticity of probability
Age of farmers (years)	-0.03	0.97	0.63	-0.15
Education level of farmers (no. of years of schooling)	2.39*	10.96	0.09	0.29
Transportation (own transportation=1, otherwise=0)	3.68**	39.69	0.02	
Area under vegetables (acres)	1.41**	4.09	0.04	0.44
Constant	-6.44	0.002	0.11	-
Correctly predicted cases (%)	91.8			
Chi-square	48.1			
Odds ratio	7:1			
Probability	0.88			

Note: \*\* Significant at 5 % level; \* Significant at 10 % level

<sup>1</sup> For details see, Aldrich and Nelson (1984).

increased after their association with the FRC consolidation centre, as they had an assured market for their produce and their marketing risks were reduced through the new institutional arrangement. Some of these farmers had additional income by growing low value-high volume leafy vegetables like mint, spinach, red amaranthus or coriander.

The cropped area of FRC farmers ranged from 500 sq. ft. to 10 acres. Exotic vegetables were grown in staggered small multiple plots, to ensure year-round supply, as per the requirements of the FRC consolidation centre. Seasonal vegetables like cauliflower, carrots, potatoes, tomatoes, etc., are grown on large plots by both FRC and non-FRC farmers.

### **13.11 Comparison of Unit Cost of Production and Net Returns of Vegetable Crops under FRC and Traditional Marketing Channels**

In this section, profitability and transaction costs of four major crops, namely, cabbage, cauliflower, carrot and tomato under the two institutional arrangements have been compared.

The differences in profits and transaction costs have been used as indicators of the performance of an institutional arrangement in the marketing of agricultural commodities. Noticeable differences in net return per quintal can be seen for all vegetable crops in Table 13.3.

The increase in net returns was the highest for cabbage growers (48%) followed by cauliflower (40%). Similarly, FRC carrot and tomato farmers realized higher returns by 34% and 18%, respectively. The high net returns for FRC farmers were due to drastic reduction in transaction costs, particularly transportation cost and commission charges. They were also paid a higher price by the FRC, as they performed additional market functions such as cleaning, grading and packing.

### **13.12 Conclusion**

The FRCs are emerging in India through corporate involvement. These FRCs have not been able to make much impact on the supply chain of fresh vegetables as they continue to depend on the traditional channels of marketing. A few FRCs have established backward linkages involving farmers for procuring fresh fruits and vegetables following different models. Spencer's is one such FRC which has organized backward linkage with farmers by establishing a fruit and vegetable consolidation centre. The results of the study indicated that the new institutional arrangement (providing linkage) has helped farmers, though few in number, to break away from the dominance of traditional brokers/wholesaler/commission agents. The marketing arrangement by the FRC also reduced the market risks and transaction costs to the

**Table 13.3** Net returns of farmers from vegetable production under FRC and traditional marketing channels

Particulars	Cabbage		Cauliflower		Carrot		Tomato	
	FRC farmers	Traditional market farmers	FRC farmers	Traditional market farmers	FRC farmers	Traditional market farmers	FRC farmers	Traditional market farmers
Yield (t/acre)	33	30	12.5	12	12	13	30	25
Price realized (₹/t)	3490	3000	8430	7000	15,500	14,000	6540	5500
Input cost/t (₹)	897 (83)	1039 (60)	1871 (91)	2019 (63)	2589 (77)	2188 (53.5)	1396 (69)	1550 (61)
Transaction cost/t (₹)	180 (17)	700 (40)	189 (9)	1200 (37)	775 (23)	1905 (46.5)	640 (31)	1000 (39)
Total cost/t (₹)	1077 (100)	1739 (100)	2060 (100)	3219 (100)	3364 (100)	4093 (100)	2036 (100)	2550 (100)
Net returns/t (₹)	2413	1261	6370	3781	12,136	9908	4504	2950
Net returns/Qtl (₹)	241	126	637	378	1214	991	450	295
Increase in net returns (%)	48		40		18		34	

Note: Figures in the parentheses are percentages to the total cost

farmers. The farmers also realized higher prices as they performed additional marketing functions such as cleaning, grading and packing of produce. Direct supply by farmers allowed the retail chain to simultaneously increase control over quality, supply reliability and price stability. The farmer's income has increased because of improved agricultural practices, growing of exotic varieties throughout the year and reduction of marketing costs.

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# Chapter 14

## Linking Farms with Consumers Through Organized Retail Chains: Implication for Producers in India

Nilabja Ghosh and Ananda Vadivelu

Opening up agriculture to retail trade is a controversial issue today, but the implications of such a change for farmers has received less attention. This chapter presents an integrated picture of three cases of farmers' marketing through retail chains using primary data, both quantitative and qualitative in nature, from three states in India. The chapter seeks to understand how the linkage between producers and the buyers in the value chains is constructed. Both direct and indirect and latent implications of the channels for producers are explored.

Opening up agriculture to retail trade is one of the most controversial components of economic reforms in India, but the implications of the change for farmers have received less attention. This channel of disposal of agricultural products, in most cases, involves direct procurement from producers by large organized entities bestowed with their own chain of consumer outlets, precluding the need for further intermediation. This marks a significant departure from the traditional practice of marketing via a state-regulated market through a string of trading intermediaries. By such a mechanism, not only are traders such as the commission agents, pre-harvest contractors, wholesalers and small-time retailers bypassed, but the organized intermediary being a more resourceful entity, the possibility of infusing modern technology and managerial practices into marketing, particularly of perishable products is greatly enhanced.

The inadequate and poor functioning of the traditional channels and the need for efficiency-inducing reforms in marketing has been revealed in several evaluative studies (Shroff 2004; Kumar and Arora 1999; Khunt et al. 2003). Intuitively, the emergence of retail chains promises to benefit farmers by reducing the difference (commonly referred as the 'price spread') between what the consumer is willing to pay and what the producer receives by reducing the unproductive marketing costs,

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intermediary margins and wastage (Bardhan et al. 2009; Young and Hobbs 2002; Fafchamps and Vargas Hill 2005). Further, beyond the monetary gains, the farmer can gain substantially from the simplified and more convenient procedures of marketing in the newer marketing systems.

Such propositions are contestable based on the evidences emerging in other countries. Greater market power of supermarket chains leading to higher marketing margins being appropriated by large companies and exploitation of small producers is a problem even in rich countries, as prices paid to suppliers are reduced to unsustainable levels in Europe and the USA (Ghosh 2012). With the high rejection rates due to the prohibitive quality standards set by buyers translating to higher transaction costs, the beneficial impact of higher prices fetched at upscale markets is also questionable. Given that bulk buying has its economic advantages, there is a bias against small farmers who are a significant proportion of the farming community in India (Singh 2012).

In this context, there is a serious apprehension that the benefits generated by the reforms will only benefit the more landed and endowed farmers. The debates on the impact of the retail channel on producer prices also raise concern on the mode of price determination. While contracting in pure or quasi forms is found applicable to retails (Singh and Singla 2011), a deviation from the auction-based process creates a case for examining the credibility of the retail organizations as buyers. Retail chains are of different forms. Under Indian law, foreign companies have had very limited access in the business till now,<sup>1</sup> but domestic companies are already in the fray. While these organized intermediaries work for profit, the Indian marketing system also has deviant models promoted by the state or by co-operative efforts that also work via organized retail chains but operate for welfare reasons rather than for profit. The domestic models in operation are also an important demonstration for enlightening the success and limitations of the various marketing options.

This chapter presents an integrated picture of three different cases from around the country in which farmers currently market their produced vegetables through retail chains. We highlight the mode of functioning of the channels and the gains that accrue to the farmers. Primary data, both quantitative and qualitative in nature, were collected from the states of Himachal Pradesh, Haryana and Jharkhand.<sup>2</sup>

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<sup>1</sup> Foreign direct investment (FDI) in retailing has been allowed only in single-brand chains up to a point, restricting the growth of the sector. FDI in retail has recently been a major issue of political confrontation among the opposing parties in the central government and faced strong resistance from opposing state governments. In November, the issue was put to vote in the Parliament and despite the contentions, the central government found majority support in favour of FDI in retail. It is now up to the state governments to accept the motion through legislation.

<sup>2</sup> The data are part of a larger set of data analysed on different marketing channels emerging in different parts of the country.

**Table 14.1** Sample details on emerging and traditional marketing channels

Channel	Sales to organized retailer			Traditional marketing channel		
Crop	Tomato	Cauliflower	Tomato	Tomato	Cauliflower	Tomato
State	Himachal Pradesh	Jharkhand	Haryana	Himachal Pradesh	Jharkhand	Haryana
District	Solan	Ranchi	Gurgaon, Sonepat and Kurukshetra	Solan	Ranchi	Gurgaon, Sonepat and Kurukshetra
Sample size	100	50	50	100	50	50

## 14.1 Data and Methodology

Primary data were collected by three agro-economic research centres located in Himachal Pradesh University in Shimla which cover Himachal Pradesh, in Delhi University which cover Haryana and Bhagalpur University which cover Ranchi.<sup>3</sup> The coverage of crops, precise locations and marketing channels studied by each centre is provided in Table 14.1. The retail chain studied in Himachal Pradesh is Mother Dairy. Unlike private sector channels, this is a state-promoted non-profit marketing body selling a popular vegetable tomato, from its chain of outlets known as Safal. In both Jharkhand and Haryana, the operations of Reliance India Limited (RIL) in marketing agricultural items through Reliance Fresh (RF) outlets were studied. RIL is a large, commercial and privately owned company. Farmers selling cauliflower in Ranchi district of Jharkhand and tomato in three districts of Haryana to RIL were the subjects of the study. The list of farmers participating in the emerging retail channel and the traditional channels consisting of traders were collated based on information from the companies, voluntary farmers' organizations and the local authorities.

Marketing in the traditional channel in reality takes place through a heterogeneous maze of structures consisting of various groups of intermediaries. The traditional channel in this study is chosen to represent the most common and familiar channel that has been operating in the region for the same product as the emerging retail channel. Random samples were drawn with stratification in each category giving representation to three different farm-holding classes, small (up to 2 ha), medium (2–4 ha) and large (more than 4 ha). Intermediaries at key points of consolidation in the chain were also surveyed on the costs incurred and prices fetched by them in their transactions along with information on their perceptions. The farmers' survey is supplemented by focus group discussions and personal interactions with market functionaries and other authorities and consumers to capture stakeholder perceptions.

<sup>3</sup> Also see *Emerging Marketing Channels in India* reports submitted to the Ministry of Agriculture, Government of India by Agricultural Economics Research Centre (Bhagalpur, Delhi and Shimla).

## 14.2 Marketing Developments in the States under Study: A Background

In the supermarket revolution, India is a late entrant. Although stores started opening in southern India<sup>4</sup> in the 1990s focusing mostly on the middle class, India's modern retail is said to have taken off only in the second stage of market reforms since 2001 (Reardon et al. 2008). The Agricultural Produce Market Committee marketing act (APMC Act) circulated by the central government among states was a clear encouragement for the emergence of new kinds of marketing channels such as the retail chains and contract farming. Starting from a low base, India may be at the fastest pace of supermarket diffusion in the world. However, till the end of 2000, staple and processed foods constituted most of the sales, and fresh produce accounted for only 10–15% of sales in modern retail stores. Less than 2% of food products are sold through modern chains.<sup>5</sup>

Retail chains are of different forms. Organized retailing is not entirely new in India.<sup>6</sup> Under Indian law, foreign companies have had very limited access in the business till now, leading to considerable political differences<sup>7</sup> on foreign direct investment (FDI) in retailing, but domestic companies are already in the fray. While these organized intermediaries work for profit, the Indian marketing system also has deviant models that are promoted by the state or cooperative efforts that work via organized retail chains but operate for welfare reasons rather than for profit.

Jharkhand, located on the central Indian plateau, has a climate conducive to producing many horticultural crops. Cauliflower accounts for over 11% of the vegetable area in the state. Kanke block in Ranchi district from where the sample is collected is located in the 'catchment' of one of RF's collection centres. Ranchi has a large tribal population, the proportion of scheduled tribes (ST) making up over 40% of the population. Even while being a state capital, it has 20% of land area under forest cover, reducing the area under agriculture. The uneven rainfall distribution over the year and low irrigation intensity also limit Ranchi's potential to produce crops.

In Solan in Himachal Pradesh, a hilly region, geography impedes economic activity. Transportation is a challenge in hilly regions. Agriculture is by far the major occupation of the people despite the sloping terrain, but, due to climatic advantage, a wide variety of fruits and vegetables can grow well in the area. Temperature is

<sup>4</sup> A joint venture between Spencers and Hongkong's regional multinational supermarket chains—Dairy Farm International was probably one of the first examples.

<sup>5</sup> Even in Delhi, the capital of India, majority of the distribution of fruits and vegetables is done through 'push-cut' retailers and 'wet-market' retailers but, contradictory to experiences in other countries, modern retail stores in Delhi spread equally to rich and poor neighbourhoods.

<sup>6</sup> Examples of cooperative outlets, cheap stores for employees and Kendriya Bhandar outlets have been known for a long time, though on a limited scale.

<sup>7</sup> Some headway was made in the central government in a recent Parliament session in 2012, but actual implementation will be revealed over time by the inclinations of the states in India's federation.

lower than on the plains throughout the year and falls below 0°C degrees in winter, but the conditions are suitable for many fruits and off-season vegetables such as tomato. About 60% of the holdings operated are small, and, due to outmigration of male labour, women are often the main workers in farming.

Unlike Jharkhand and Himachal Pradesh, Haryana is economically and agriculturally more developed and better off. Situated on the plains, it has emerged as one of the main beneficiaries of India's economic liberalization process. Its proximity to the capital, New Delhi, and its own success in urbanization with the rise of the software industry in Gurgaon are its special advantages. All three districts sampled in Haryana (Table 14.1) and Gurgaon in particular, form the hinterland of the capital city of the country. The climate in the region is marked by very hot summers, very cold winters and mild monsoon, but Gurgaon has a more arid climate. Cereals constitute the major crops in the state, but with alarming signs of water pollution and soil degradation, the emphasis has shifted to developing horticulture as an alternative in agriculture. An active programme of the National Horticultural Mission is in operation in the state.

Jharkhand, after separating from Bihar in 2000, enacted its own APMC Act. With 25 regulated markets in seven districts, the Jharkhand State Agricultural Produce Marketing Board (JSAPMB) was formed in 2001, but subsequent to the circular arriving from the centre, the Jharkhand government amended the act to permit reforms in 2003. The opening of stores by RIL was one of the first initiatives in the reforms. Several other possibilities, especially the contract-farming options, were explored, but success till date is limited. The resistance from affected parties has been an important element during the transition process in the reforms in the state.

Himachal Pradesh had strong market regulation through the APMC Act of 1970, but this had turned into a stranglehold for producers owing to the degeneration of the supervision process. It has now taken a lead role in reforming agricultural marketing. With the enactment of the Himachal Pradesh Agricultural and Horticultural Produce Marketing (Development and Regulation) Act 2005, numerous private operators responded by entering the market.<sup>8</sup> New marketing channels and private sector involvement are especially important in the state, which has natural advantages for producing fruits and vegetables that are highly perishable.

The same act—the Punjab Agriculture Produce Markets Act 1939—was enacted in Haryana when it received statehood in 1966. Though the market remains highly regulated even after liberalization, Haryana has permitted certain changes, though in a gradual and limited manner. Contract farming for horticultural products is an innovation being currently explored in Haryana and Punjab. The state began to set up new and most advanced market infrastructure for marketing perishable items, towards which the emphasis is visibly shifting. Haryana's agricultural marketing, however, still remains partially reformed.<sup>9</sup>

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<sup>8</sup> Adani Fresh Limited, Container Corporation of India and Dev Bhoomi Cool Chamber Limited are two such operators.

<sup>9</sup> Not all the proposed reforms are implemented and the act has not been amended.

### 14.3 The Challenge of Marketing Vegetables and the Retail Chains

The perishable nature of vegetables is a particularly limiting factor for their marketing, discouraging farmers from commercial cultivation of vegetables such as tomato and cauliflower. Marketing traditionally is handled by commission agents (*Kutchra arthya*), pre-harvest contractors, *Mashakhors* (as in Himachal Pradesh), wholesalers and other agents and finally by street side or cart-pushing vendors, who are typically poor. The capability of these traditional channels to create facilities commensurate with the technologies available worldwide for transportation, packaging, storage and distribution functions for marketing perishable items is far from adequate.

The existing supervisory system hinging on representative market committees has mostly become dysfunctional for managing public funds. They are defunct in many cases, and elections do not take place for long periods (many years), and bureaucrats persistently undertake the relevant responsibilities on a provisional basis.

In the absence of organized private initiatives, government funding managed by dedicated or delegated public servants becomes the critical recourse, but in the liberalized spirit of India's economic policy, public funds and supervision are not adequate or appropriate answers to the problem. Yet such investments are an imperative if the horticulture sector has to grow. The poor infrastructure in the present case causes large volumes of vegetables to be wasted on farm, in transit or at the retailer level.<sup>10</sup> The prices that the producer fetches are very low relative to what the urban consumer pays due to the high cost incurred in transit. These prices are also subject to seasonal volatility. Tomatoes are especially easily spoiled unless refrigerated, but cauliflowers can be preserved for a month at reasonably tolerable conditions of temperature and humidity with leaves attached and can be transported in trucks tied in nets. Investment and management in keeping with the best global practices are required for agriculture to deliver higher incomes to producers by tapping the growing urban market and export possibilities.

Retailing of food products is not entirely new in India, cooperative shops being early and crude examples. Such initiatives have also not been entirely successful in surviving, expanding or even triggering emulation. The modern retail in the reformed scene would portray a much more organized form that is institutionally more equipped to draw finance, skill and modern methods.

We discuss two different chains that operate currently and one of them is a survivor from pre-reform days, but both are essentially domestic ventures. Figure 14.1 suggests that though vastly different in ownership and organizational features, the structure and mode of operation of both the channels are largely similar as evident in the foregoing analysis. In contrast, the traditional channel considered for

<sup>10</sup> Post-harvest losses of major fruits at various stages of marketing are estimated by unconfirmed sources and methods at 15–50% (FAO 1981, Roy 1989) and at 1.2% of agriculture gross domestic product (GDP) by a systematic study (Murthy et al. 2009). Another study estimates the losses (CIPHET 2010) to be in the range of 6.3 (citrous) to 12.3 (apple).

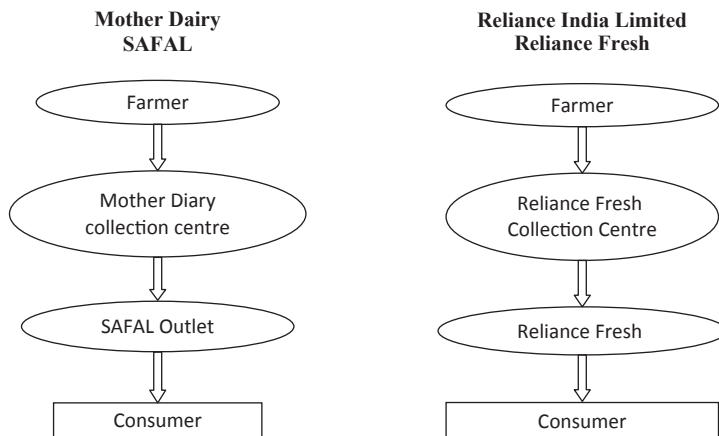


Fig. 14.1 Retail marketing channels under study

Jharkhand links the producer and the consumer via a commission agent (*kutchi arthya*) or an itinerant trader, a village merchant and a retailer. In Himachal Pradesh, where Mother Dairy is the retail channel, the traditional channel consisted of commission agents, *mashakhors* and retailers.

### 14.3.1 Marketing Through RF in Jharkhand and Haryana

Organized retailing through numerous outlets bearing the same name by private sector companies is a market innovation of the 2000s. RIL, which started opening outlets known as RF in different parts of the country, is a forerunner in this initiative. Having over 1000 stores, RF sells groceries, staples and dairy products also, besides fresh fruit and vegetables. This domestic initiative generates valuable experience for guiding future entrants, including a string of foreign companies who aspire to operate either in the Indian market or in other developing countries. In this study, we have reports from two states, Jharkhand and Haryana, on the functioning of this channel. The resistance and unrest felt by RF also demonstrate the social repercussions to be anticipated by retail ventures and the possible lessons to be learnt. Jharkhand is one leading example where RF in particular was resisted strongly, leading to closure of stores.

We find that the producers selling to RF generally grow vegetables crops purely as commercial crops and not merely for meeting their subsistence needs, as is often the case. RF sells through their small- and medium-sized stores, offering to 'bring high-quality vegetables to consumers at affordable prices'. Replacing the string of intermediaries traditionally passing on the vegetables to consumers, RF presents a far more vertically integrated process involving assemblage and storage at its own local collection centres and grading, standardization and logistics through tie-ups with other specialized agencies, before being disposed through the designated

stores. The stores open at 9 am and operate daily for 12 h, attractively displaying graded vegetables in the shelves of air-conditioned stalls with trained personnel to draw customers. RF procures the best-grade products in both states.

### ***14.3.2 Mother Dairy as the Intermediary in Himachal Pradesh***

Mother Dairy is a state-promoted venture driven by welfare consideration. Set up in 1974 under the Operation Flood Programme and now a wholly owned subsidiary of the National Dairy Development Board (NDDB), Mother Dairy is an early initiative of the retail chain model. Although profit is not the motive, financial sovereignty differentiated this from many other public sector initiatives that draw on government support. Initial business was focused on milk and milk products and subsequently expanded to cover edible oils and fruit juices under the brand name of Mother Dairy. Retailing of fresh and frozen fruits and vegetables picked up with the opening of outlets called Safal by the same chain. Mother Dairy, like RF, procures tomatoes of specific varieties (Fig. 14.1).

## **14.4 Why Choose the Retail Channel**

Replacing a longstanding arrangement of selling via built-up relationships with local trading agents is by no means an easy task. A shift on the part of producers is especially challenging when these agents are more powerful than the producers in having better access to market information and better contacts with the subsequent links in the chain. Sometimes, they also enjoy collusive understanding with persons legally vested with decision-making power.

Our researchers interacted with farmers who have fully or partially shifted to the retail channel with the aim of understanding their interests in joining the new chain. The major satisfaction that the farmers expressed was the curtailment of their cost of marketing. Assessment of the cost advantage, however, must necessarily take into account non-pecuniary aspects of transaction, often identified as the concept of transaction costs in literature (Coase's 1937; Hubbard 1997) that can also be expressed in a qualitative manner.

In Himachal Pradesh, the opening of a Mother Dairy store for collection of produce within a distance of, at the most, 15 km from any of the sample farms in Solan was a significant development. Tomatoes were collected right from the field in plastic crates that were provided by the buyer at a nominal cost. The remaining tasks of gathering, sorting, transporting and finally distributing the vegetables through Safal booths in Delhi were undertaken by Mother Dairy, which is a great relief to the producers. Our estimates suggest that farmers bear only 30% of the costs of marketing the product, which is significantly less than 65% borne by farmers selling in the traditional channel. This marketing cost includes the cost of the crate provided by Mother Dairy for storage as well as rejections and wastages.



On the other hand, the non-participating farmers had to carry the product to the market at their own cost. In this state, the regulated market is perceived in poor light, and the commission agents lack credibility. The marginal producers often carry vegetables together with milk to urban areas to be sold directly to customers. Small retailers also bypass commission agents and approach the farmers before they take their products for auction at local markets. Producers commonly use multiple channels based on the reliability of the marketing agencies, their own urgency for cash and the prices offered. All this indicates that the regulated market is an amorphous mass, and the regulations hardly serve the purpose they are intended for.

The opening of RF in Ranchi is a milestone. With the regulated marketing system in decadence and various devious ways of getting around to market products being available, the smaller farmers are known to feel averse to market participation. A few thousand farmers are hooked on to the retail supply chain of RF in the Ranchi district through collection centres where the products are measured and recorded in the names of the producer-sellers. RF procures vegetables right from the farm on a daily basis. Participating households escape many of the responsibilities of marketing in the traditional channel such as transportation to the local market, weighing and storing the products on farm. It is important to note that vegetables are required to be graded based on their freshness for acceptance, and ensuring good/satisfactory quality is an obligation for the producers.

In Jharkhand, the cost of marketing in monetary terms was comparable across the two channels. Farmers selling to RF share 40% of the total marketing cost in the chain compared to 39% in the regulated market. Village merchants, itinerant traders, wholesalers, commission agents and retailers are the prominent intermediaries in the traditional chain, though the channel lengths vary. It also has to be noted that small farmers do not generally dispose of their products in the main market yards, purportedly due to poor infrastructure and supervision. The cooperative is also non-functional. As a result, more commonly, they sell to wholesalers or small commission agents in the rural periodic markets.

The affluence of Gurgaon and its location in the national capital region create demand and scope for commercial cultivation of fruits and vegetables to flourish. Haryana and the neighbouring state Punjab are, therefore, two states for special focus in terms of development of horticulture and an internationally high standard of marketing. However, reforms have not been easy in the states where agricultural development peaked more than a decade ago, and a shift of focus from cereals is an enormous challenge. A large class of traders and processors already exist, but they are specialized in operations relating to cereals. Nevertheless, the channel-studied RF has drawn participation from growers of tomato, and the perception on the advantages of marketing through this chain is not much different from that found in Jharkhand. In monetary terms, the farmers in this channel share 77% of the total cost of marketing as compared to 89% reported by our sample farmers not participating in the chains.

The convenience of selling the produce right from the farm with a minimum of hassles and a reduced share of marketing cost is not the only advantage for participants of the retail chain, as evident in Table 14.2. Not only are the gross prices

**Table 14.2** Gains to the producer

Indicators	Himachal Pradesh	Haryana	Jharkhand
Gross producer price (Rs/quintal)	1062 (1.06)	545 (1.06)	361.98 (1.0)
Adjusted producer price (Rs/quintal)	989 (1.90)	501 (1.18)	359 (1.07)
Returns from land (Rs lakh/ha)	1.78 (3.18)	1.09 (1.43)	0.13 (1.18)
Not sold (% marketed)	2.64 (0.7)	0.7 (0.3)	2.81 (0.64)

Figures in parentheses are proportions to corresponding non-participating households. 1 quintal is equivalent to 100 kg

received by the farmers higher in the retail, even after correcting for rejection and wastage, the net adjusted produce prices are more favourable compared to the sample farmers in the traditional channels (figures in parentheses in Table 14.2). In Himachal Pradesh, the adjusted price paid by Mother Dairy is nearly double than what is fetched in the open market. Rejection is common to participants in both channels, but it is interesting to note that rejection is not necessarily a greater problem in the modern channel. In our samples, the proportion of the marketed amount that remains totally 'unsold' is less in the retail channel than in the traditional one in all the cases, although some part of the marketed lot is required to be sold in other markets. Despite the incidence of rejection, the possibility of getting an alternative market is higher for producers in retail channels on account of their superior qualitative orientation. The returns from land made after deduction of all production and marketing costs from revenue is higher in the retail channel than the corresponding traditional channel, the difference being considerably higher in Himachal Pradesh.

## 14.5 Efficiency of the Channel and the Farmer's Gain

Only a small proportion of what the consumer pays for products reaches the actual producers (Bardhan et al. 2009), while unproductive marketing costs and margins account for a large share. The 'unproductive' functions of buying and selling commodities (Marx 1974) are seen analytically as 'necessary' but unavoidable (Harris-White 1996) leading to diversion of merchant and social capital, but since such functions are usually inextricably combined with productive activities such as transport, storage, cleaning and processing in various degrees, it is not easy to disentangle the components. With superior managerial practices having developed in tandem with the progress of technology, it is likely that much of the unproductive functions can be avoided today and deemed 'unnecessary'.

The retail model would ideally minimize or eliminate the avoidable part of price dispersion between the producer and the user. Arguably, this part of the price difference will be a collectivized measure of unproductive marketing cost. This is far from easy to evaluate and confirm in practice. The traders in agricultural markets

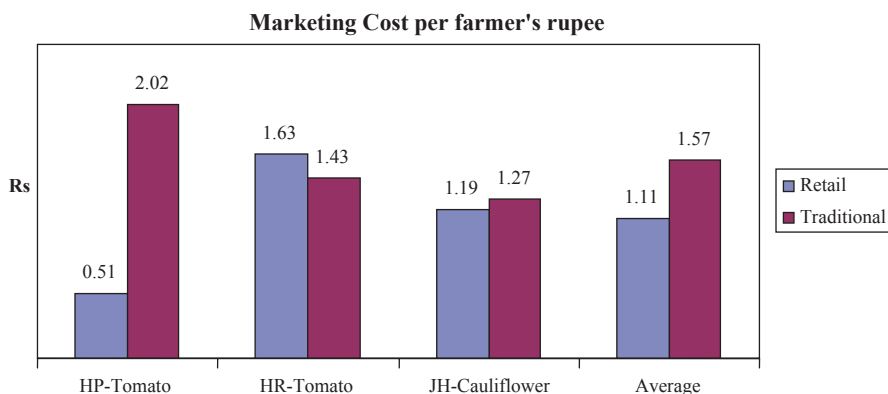
are known to discharge several additional and associated functions apart from buying and selling. The trader’s role as financier, insurer (as in preharvest contracts or forward contracts), informer (agent of market intelligence) and input supplier often is only implicit in their margins, given their outdated accountancy practices. On the contrary, the same traders individually specialize in small ambits of activities in a system that encourages the entry of more and more players who claim their margins. Whether a farmer can gain from the retail channels can be assessed by the possibility of enhancing the efficiency of marketing by reducing the marketing cost relative to what the farmer actually receives.

Measurement of efficiency is fraught with misconceptions, vagueness of definitions and methodological ‘corruptions’ driven by ideological deployments (Harris-White 1996). Our method of arriving at a quantitative measure of the farmer’s gain from efficiency is a modification of the celebrated Shepherd formula (Shepherd 1965) and the modified Measure of Marketing Efficiency (MME) as suggested by Acharya (Acharya and Agrawal 2004) and entails a comparison of the gross marketing cost (GMC) incurred by different agents in the chain per every rupee fetched by the farmer as given below. This measure is

$$GMC = (MC + MM)/NAFP$$

Where MC is the cost incurred by farmer and all intermediaries in marketing the said product, MM is the marketing margins as sum of all margins earned by the trading intermediaries and NAFP is the net adjusted farmer price, which is the price in the specified channel adjusted for wastage and rejection and net of marketing cost. The variables MC, MM and NAFP are expressed as rupees/quintal, and GMC is expressed as a ratio (or rupees per rupee of farmer price).

The below figure indicates that except the case of tomato in Haryana, marketing costs including intermediary margins relative to the producer prices are less in the retail chain compared to the traditional channel. The performance of the market in delivering to the producer the price fetched from the consumer is best in Himachal Pradesh, where the farmers in particular have complained of exploitation at the hands of the traditional traders and where the retail channel is operated by a non-profit organization.



In retail, a string of intermediaries get replaced by a single organized entity run by a fleet of trained employees. With this black box in place, it becomes difficult to distinguish marketing costs borne by the company from the margins in a manner that is consistent with the alternate channels. In Jharkhand, the GMC consisting of both costs and margins in marketing is comparable between the two channels studied, but the consumer price is higher in the retail channel. Nevertheless, due to the attraction of the computerized weighing facility and better display of products and prices, consumers are drawn to the outlet, and business has grown in RF. In Himachal Pradesh, the GMC is lower in the retail channel at ₹ 176 per quintal in comparison to ₹ 261 in the traditional channel. But the farmer's net price is higher, leading to larger gains. In Haryana, however, marketing costs including margins in RF are larger in the retail channel, and although farmer price is higher, the marketing cost relative to farmer price is less in retail than in the traditional channel.

## 14.6 Who Gains from the Retail Channels

The evidence suggests that the retail channel benefits the farmers economically. Also, in light of the farmers' perceptions about the inconvenience of marketing, the benefits that we could measure quantitatively, if anything, may be an underestimation. However, this is at best a partial story because it fails to convey if the beneficiaries are representative of Indian farmers.

It is well-known that land fragmentation has been an overriding feature in the history of Indian agriculture so that the typical farmer holds a small plot of land, and the farm size has been rapidly diminishing over time. Not only is this a reason for poor farm income and the consequent resource starvation for the much-needed investment on land, but the small marketed volume is likely to appear distinctly unappealing for large commercial firms which prefer to buy in large lots. The buyer's transaction cost of such purchases in terms of individual screening, trust and the producer's slim leeway for bargaining over price rebounds is as a severe diseconomy of scale to the producer.

We present the extent of participation of deprived farm households by a few major indicators by reporting the proportion of participating households exhibiting such deprivations in comparison with the corresponding participants in the control group of non-participants. Between 36% (in Jharkhand) and 72% (in Himachal Pradesh) of the sample farmers operate less than 2 ha of land. The land-holding pattern itself varies among regions. Among the sample participants, the average land-holding size is smallest in Himachal Pradesh, below 1 ha and is in the medium category in the other two states, being the largest in Jharkhand. While the participating average farm is smaller than the average farm in the area (a little over 1 ha in Solan) in Himachal Pradesh, it is larger, though by a small margin, in Haryana (varying from 1.5 ha in Sonapat to 2.1 ha in Kurukshetra) and in Jharkhand (3.1 ha in Ranchi). It is certainly larger than the all-India average of 1.4 ha. However, in each case, our study found a lower proportion of small farmers among the participants in

**Table 14.3** Participation of sample deprived households in the retail channel

Deprivation	Himachal Pradesh	Haryana	Jharkhand
Small holding	72 (0.82)	46 (0.68)	36 (0.67)
Average farm size (ha)	0.87 (1.05)	2.34 (0.61)	3.83 (1.64)
Disadvantaged sections	38 (0.90)	22 (0.92)	8 (0.29)
Not owning a motorcycle	88 (0.96)	52 (0.79)	80 (0.95)
Not owning a mobile phone	0 (–)	12 (0.50)	18 (0.45)
Not owning a pump-set	100 (1)	58 (0.88)	86 (0.96)

Figures in parentheses are proportions to corresponding non-participating households. Disadvantaged sections specified as scheduled caste (*SC*), scheduled tribe (*ST*) and minority non-Hindu people. Average farm sizes in the districts are as follows: Solan—1.07, Ranchi—3.1, Sonapat—1.56, Gurgaoan—1.8 and Kurukshetra—2.4 (Government of India)

the retail channel compared to the corresponding traditional channel in the region. Moving beyond land holding as a measure of economic vulnerability, the picture is not much different if ownership of key assets is considered as an indicator. We find that no household reported owning a pump-set in Himachal Pradesh. The inclusion of disadvantaged sections, namely the scheduled caste (*SC*), *ST* and minority communities together, is less in all cases, especially in Jharkhand (Table 14.3).

The above Table 14.3 only reflects the selective bias partially. In Himachal Pradesh, the sampled farmers in the channel reported with a measure of resentment that tomatoes are purchased selectively by grades, although, strictly speaking, Mother Dairy is not a commercial venture. Mother Dairy also regularly changes its site, and its purchase is linked to the indicators of quality and shelf life of a product. Procurement is largely restricted to areas endowed with favourable temperature, although no popular unrest or violence was encountered as witnessed by private sector marketing agents such as Adani operating in the same state. How far the selective approach is responsible for the inclusion bias could not be confirmed. In Jharkhand and Haryana, procurement from the farmer's doorstep is an advantage, but it is important to note that for vegetables to be acceptable to Reliance, they are required to be graded based on their quality and freshness.

## 14.7 More Profound Issues

It is becoming evident that the retail chain has served the farmer as an additional option in marketing, but the gain has probably reached only a privileged section of the farming community. The participants identified in the study are not representative of the typical farm-holding classes in India and are less endowed in their access

to assets and in their social standing compared to the non-participants. The picture is, however, much more complex than these indications suggest, and there are many more issues involved than captured in the analysis or that even meet the eye.

In all the three states studied, vegetable cultivation can have considerable market potential on account of geographical advantages and demand generated by economic growth, but the potential can be harnessed only if higher cost is borne in raising productivity, ensuring high quality and promoting the associated marketing functions. Thus, growing vegetables can be a way of higher incomes and development of rural areas.

In Haryana, the regional development taking place in the wake of reforms creates a niche market in the peri-urban vicinities for farmers to earn higher incomes in agriculture, even while the ecological and economic imbalances created by price-supported cereal cultivation are contained. In Jharkhand, growing vegetables for the market could be one of the few ways to utilize the climatic peculiarities positively when they impede other forms of agriculture and to promote development in a place which is marked by extensive poverty and where large sections of the tribal population reside.

Raised as an off-season crop, vegetables like tomato can be grown in greenhouses in Himachal Pradesh and sold to affluent areas on the plains. Tomato is easily spoilt. High temperature, humidity and oxygen pressure impose serious risk of spoilage, but processes such as waxing can reduce weight loss of tomatoes and increase their shelf life. Handling of the products is costly, requiring the services of numerous trading agents by a process that adds to margins without eliminating wastage. Organized retail, by bringing resources, technology and updated management practices could be an answer. At the same time, the retail outlets present draw urban and affluent shoppers by offering a comfortable ambience. Although there are serious questions on whether the consumers prefer to buy fresh vegetables from the stores rather than from push cart vendors, our study finds favourable reactions from customers in Jharkhand and Haryana especially on account of facilities such as electronic weighing machines and especially the price displays.

Perceptions of traders were also collected. The traditional traders in Himachal Pradesh send the products of tomato to Delhi and Chandigarh or sell them at Solan market, but a majority of the traders are essentially operators in Delhi's Azadpur market. Mother Dairy was also one of the intermediary agents in these chains. The margins were stated to be poor, but similar report was received from Mother Dairy too. For trading in cauliflower, storage and careful handling are important functions, and traders find their task difficult because farmers do not always follow scientific post-harvest management. For traditional retailers, transportation and storage are serious problems. These problems are largely overcome in the emerging channel where RF possesses superior logistic management resulting in considerable saving and reduction of wastage during marketing of a perishable item. However, part of the problem is beyond the control of trading functionaries of any form. Infrastructural problems were related mostly to roads and transport facilities that affected both channels more severely for the traditional traders. The state's role in ensuring extension services to farmers and communication facilities to all stakeholders remains critical to facilitating appropriate handling.

Overall, the farmers expressed greater satisfaction with the services of the retail buyers. Prices were comparable to what they expected, and conflicts occurred less often. Only in Himachal Pradesh, recovery of due was reported to be easier in the traditional channel. Problems occurred between trader groups and the RF, especially severe unrest being experienced in Jharkhand where stores had to be closed, though low demand was also given as an explanation for the closures.

Pricing is one of the major challenges of the retail and other emerging channels. Awareness about prevailing prices seemed to be poor among both producers and traders. The government's intelligence machinery, known as Agricultural Marketing Information Network (AGMARKNET) has played nearly no part except for a minor role in Haryana, where AGMARKNET's office is located. The sample farmers in either channel in the other two states did not report ever being aided by this system. In the traditional channel, the traders were the key source of price information, apart from interpersonal discourse among farmers. The advent of the retail chain has been an additional source of information even for non-participating farmers. While traders have been found to be a dominant source of information in most emerging channels, in our larger study encompassing many channels, surprisingly participants in the retail channel seemed to rely excessively on the channel's own dissemination service, reducing their association with the traditional intermediaries. In Haryana, the pricing process for matching supply and demand is onerous and reported as 'messy' by the agent too. No instance of preharvest contracting between the producer and the retailer was reported. At harvest, the collection centre offers or 'posts' a price, based on which farmers decide whether or not to sell. Such decisions are necessarily made by comparing with alternative channels. The assurances obtained from producers on supply are oral but without the formal commitment, which constrains the retailer with uncertainty.

The retail chain agents seem to fall back on regulated markets to seek the most recent information on price prevalence. Even if the public intelligence is reinforced, it will still rely on auction-based open-market price information. In this circumstance, it would be reasonable to view the two systems, the traditional market and the retail chain, more as complements than substitutes. Their coexistence is important for each other's synergic and competitive functioning, while greater switching options should be available to farmers.

## 14.8 Concluding Remarks

The assessment of the retail chain and other marketing channels is not a simple task. While debate hovers around the interest of traders, the benefits percolating to the farming classes also require attention, and the policy issue should not be placed as a choice of alternative channels. Rather, the traditional channel and the retail chain are best perceived as options for the selling farmer.

The retail chain option with domestic companies already operating in the country does seem to generate significant benefits to the producers; the inclusiveness of

participation being less than satisfactory, equity and potential of the positive impact on an agriculture dominated by small-holding, resources-poor farmers deserve more attention. Above all, efficient pricing and market intelligence will require the presence of multiple players in the market. It is also important that public funds are allocated to improve the general marketing facilities that will benefit all and especially in facilitating the survival of the traditional channels to provide options to all classes of farmers.

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# Chapter 15

## Promoting Organized Retail in Horticulture and Beneficial Impact on Farmers—The Case of Deepak Fertilizers and Petrochemicals Limited

Sangeeta Shroff, S.S. Kalamkar and Jayanti Kajale

### 15.1 Backdrop

India was facing a severe food shortage before and soon after colonial rule. However, a major breakthrough came about in technology in the late 1960s and early 1970s, often termed “The Green Revolution”, which signaled the beginning of a more dynamic and commercial agriculture. This new seed-water-fertilizer technology greatly enhanced productivity of foodgrains, thus making the country self-sufficient in food. Gradually, with the institution of planning, policymakers focused on the need to diversify agriculture. Accordingly, the Green Revolution was followed by the White Revolution which revolutionized milk production, and further the country also went through a Yellow Revolution with the adoption of new varieties of oilseeds catalyzed by the Technology Mission of Oilseeds. The Blue Revolution aimed at enhancing fish production, and of late, the National Horticulture Mission aims at ushering in a Golden Revolution by increasing production of fruits and vegetables. India now ranks first in the world in milk production, second in fruits and vegetables and third in the production of eggs (Government of India 2011).

Diversification of agriculture has brought about increased production of several commodities, which have in turn brought about new challenges to handle in terms of huge marketable surplus. Policymakers have therefore now focused attention on building up an efficient marketing system which will ensure time, place and form utility. It is also important for the marketing system to minimize the margin between farmers and ultimate consumers so as to benefit both, by providing higher prices

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to farmers and lowest prices to consumers. Challenges and opportunities emerging out of liberalization and dismantling of trade barriers in the agricultural sector also require a dynamic marketing structure.

In view of the above, the structure of marketing has been undergoing changes and reforms since independence. The Agricultural Produce Market Committees (APMC) were established in each state by the respective state governments, soon after independence, with a view to regulate markets and ensure sales through auction method, licence to all market functionaries, reliable weighing, standardized market charges, payment of cash to farmers without undue deductions, dispute settlement mechanisms and availability of several amenities in market yards. Despite several advantages that regulated markets had, there still existed limitations such as traces of collusion among traders in bidding low prices and monopolization of trade by way of granting licenses to intermediaries, which barricaded the entry of new functionaries.

Market reforms were therefore deemed necessary to facilitate market-driven production planning, facilitate integration of farm production with domestic and global markets and attract massive investments for building up postharvest infrastructure. A Model APMC Act was finalized in 2003 by the Government of India, and all states were required to make changes in their APMC act so as to accommodate changes recommended in the model act. With amendments made in the APMC act, direct marketing, contract farming, corporate entry into agricultural markets etc. have begun to make inroads into agricultural marketing. The APMC act which brought about market regulation soon after independence, often caused the supply chain to become inefficient due to the presence of a large number of intermediaries in agricultural marketing. These intermediaries performed the distribution function as produce is normally consolidated in the regulated markets and reconsolidated by intermediaries at least two or three times before it reaches the final consumer. The supply chain is dominated by traders who operate on high margins for not much value added. In such a process, there is wastage leading to huge losses, and both the farmers and producers lose in terms of price. Hence, a more integrated market structure where the farmer is provided both backward and forward linkage helps to minimize inefficiencies in the marketing system.

In view of changes in the marketing system in tune with dynamism and commercialization in Indian agriculture, corporate units like Reliance, Godrej, Deepak Fertilizers and Petrochemicals Ltd. (DFPCL), Bharati group, ITC, etc. have entered agricultural markets to capitalize on opportunities such as market integration. These companies have linkages with small and large farmers and have a "farm to fork" retail plan. Some of these corporates even provide extension services to farmers and supply them with quality inputs, and finally buy back the produce from the farmers. As a result, India's agri-retail sector has been witnessing some form of transformation, with organized retail making inroads to consolidate the markets.

## 15.2 Objective and Methodology

Organized retail is still in a nascent stage in India. Retail firms are adopting different formats for entry, expansion, export etc. of agricultural produce. These players have an opportunity to bring about an efficient supply chain by sourcing vegetables and fruits directly from farmers, thus giving them a better price and also reducing wastage. Accordingly, in this chapter, an attempt is made to study the impact of the corporate entry of DFPCL in agricultural marketing. The main purpose of this chapter is to observe and compare the price spread and marketing costs of pomegranate in case of sales by farmers in the regulated markets with that of DFPCL. This comparison will enable us to observe if the vertically coordinated supply chain by a corporate has eliminated or reduced inefficiencies in agricultural marketing which normally arise due to multilayer intermediaries operating with high margins, and thus reducing the share of the farmer in the price paid by the ultimate consumer.

In order to study the price spread for pomegranate, the district selected was Nasik in Maharashtra and the taluka selected was Satana. Maharashtra is a leading producer of pomegranates and contributes to about 70% of the pomegranates produced in the country. In Maharashtra, Nasik is a leading producer of pomegranates. A comparison was made between the price spread of farmers' sales in Satana APMCs and the price spread when farmers sold to DFPCL. The purpose was to observe if farmers benefited from a more integrated supply chain due to organized retail. Accordingly, primary data was collected in 2009 from a sample of 35 farmers who sold to Satana APMC, while in the case of sales to DFPCL, only data from 5 farmers in Satana could be obtained (Shroff et al. 2011).

## 15.3 Deepak Fertilizers and Petrochemicals Limited (DFPCL)

DFPCL was initially established for the purpose of manufacturing fertilizers in India. However, it diversified through its Agri-business & Farming Solutions (ABFS) division in providing cost-effective solution to farmers, complete agronomic advisory service, plant nutrition solutions, pre- and postharvest technology dissemination and all-round efforts to make the Indian farmer globally competitive. The agri-service division of DFPCL is known as Saarrthie and DFPCL has eight Saarrthie centres located in key areas of Maharashtra. The fertilizers manufactured by DFPCL are marketed in several states in Western and Northern India and also in Andhra Pradesh.

Saarrthie aims at providing total agri-solutions through soil, water and plant-testing facilities along with complete crop nutritional management, using its range of plant nutrient products which include micronutrients. These centres also provide marketing linkage to farmers for their farm produce with product buyback and retailing. The main aim is to provide a complete basket of solutions and techno-

commercial services to ensure higher yields and thus profitability for farmers. Each Saarrthie extension centre operates from a centrally located office in a potential area/marketplace. Each centre is managed by an agronomist who is assisted by a team of supervisors and technical assistants.

Food safety and quality of agro-food have now become an important issue in an era of trade liberalization. As horticultural produce has high export potential, the sanitary and phytosanitary standards imposed by developed countries must be applied so that they do not serve as an impediment to trade. The ABFS division of DFPCL therefore helps farmers to obtain Global Gap Certification so that they can capitalize on the opportunity to export to the high-valued European and US markets. ABFS has helped farmers to obtain certification from "Food Cert B.V." which is a Holland-based certification body. ABFS also conducts training programmes for farmers, to enable them to develop standards which can be easily audited and thus promotes good agricultural practices (GAP). The training programme creates awareness among farmers on integrated crop management, integrated pest control, quality management system, hazard analysis and critical control points and worker health and safety. Further, ABFS also helps farmers in postharvest handling, grading and packaging of produce.

Other than having the GAP certification for agricultural produce in India which is monitored by ABFS, DPFCL is the first company in India to be accredited by the German-based Global GAP secretariat to promote DPFCL GAP standards focusing on small and marginal farmers. The efforts of DFPCL have helped farmers to undergo audit successfully with respect to certification, thus giving them an opportunity to get access to the high-value markets and organized agri-retail across the world. The supply chain of DFPCL is well developed to fulfil the needs of overseas buyers, and presently the company is servicing customers from the Middle East, Europe and the UK. In the domestic market, DFPCL does not have its own retail outlet but caters to the requirements of corporate dealing in organized retail such as Aditya Birla Retail Ltd, Metro Cash & Carry, TESCO India, Future Value Retail Ltd. etc.

ABFS has specialized in fruit processing in order to provide a complete basket of solutions and services to the farmers. ABFS provides the complete solution right from washing, selecting, crushing, peeling, pulping, vapour heat treatment of raw fruits and packaging. It also provides technical guidance regarding the right time to harvest the crop so as to prevent spoilage or damage to the fruit. The clients in this category are juice and pulp processors.

#### **15.4 Comparison of Price Spread for Pomegranate in Case of Sales to APMC (Satana) and DFPCL**

The supply chain in case of sales in regulated markets is different from that in case of farmers' sales to DFPCL. In case of regulated market sales, the farmer sells his produce through a commission agent to a wholesaler, who in turn sells to a retailer. The consumers then purchase from a retailer. In some cases, before the produce

reaches the retailer, there are two wholesalers involved in the supply chain. However, the purchase operations of DFPCL are shorter as the company sources the produce directly from farmers and supplies it to malls or exports it, depending upon the orders it receives from organized retail or overseas buyers.

The price spread across both channels can be observed in Table 15.1. It can be noted that wastage in case of sales to DFPCL is much lower than that of sales in regulated markets. This is obvious, because the company procures only selected fruits which have minimal or no defect. The retail margin is 1.8 times when the produce is procured by DFPCL, compared to retailers who buy pomegranates from wholesalers in regulated markets. It may be noted that from the retailer's margin in organized retail, about 28% is the share of DFPCL for its services provided to the retail outlet. The marketing margin as a percentage of retail price is 24.88% in case of sales to DFPCL, whereas it was 33% in case of sales to regulated markets.

The share of the farmer in retailer's price was 46.5% in case of sales in APMC, whereas it was 71.6% in case of sales to DFPCL. In case of sales through regulated markets, farmers had to incur marketing costs of ₹ 330 per quintal which reduced the net price that they received. In case of pomegranates and other fruits, the commission charges which are paid to the agent are 8% which is twice that of other agricultural commodities. This is mainly because the risk is higher in case of fruits.

The huge difference, 1.7 times, in price received by farmers who sell to DFPCL can be largely explained by two reasons. First, the produce purchased by agents of DFPCL is of very superior quality. The weight of the fruit purchased is at least 200 g, it is free of defects and has a good general appearance. Second, since it is picked up from the field, the farmer does not have to pay either transport or marketing costs. However, in case of sales in APMCs all produce, irrespective of quality, is sold through auction. Low-quality produce is auctioned at a very low price, while better quality produce fetches a higher price. Hence, sales through regulated markets fetch a lower price as compared to sales to corporates. The agents of DFPCL source the produce from the farmer's field and transport it directly to the retail outlet, such as a mall, and the role of a wholesaler is eliminated. Hence, the supply chain is shorter, whereas in case of regulated market sales, there are cases when there are two wholesalers—one wholesaler from the local market who participates in the auction and then transports the produce to another wholesaler in a distant market. Thus, more intermediaries will obviously increase the mark-up at each level, thereby increasing marketing costs and margins. However, this is bound to happen in case of commodities which are produced in a particular region but are in demand throughout the country. For example, about 70% production of pomegranate is in Maharashtra, but demand is also in Delhi, Lucknow, Agra and other areas where the crop is not cultivated. This increases the marketing costs and margins. Organized retail, on the other hand, is able to reduce intermediaries and therefore reduce marketing costs and margins.

**Table 15.1** Price spread and marketing costs for pomegranate (2009). (*Rs per quintal*). (Source: computed from field survey data)

Sr. no.	Price spread	Sale in APMC	Sale to DFPCL
I	<i>Price received by farmer</i>	3819	6100
II	<i>Total marketing costs of farmer</i>	330	–
	(a) Transport to APMC	23	–
	(b) Loading and unloading	2	–
	(c) Weighing and other related expenses	–	–
	(d) Commission	305	–
	<i>Net price received by farmer</i>	3489	6100
	Net profit (Net price received – paid out cost)	2428	5440
III	Marketing costs and margins of wholesaler	1681	–
	(a) Market fee	36.6	–
	(b) Hamali	2	–
	(c) Wastage during transport	245	–
	(d) Transport to terminal market	105	–
	(e) Wholesaler's margin	1292.4	–
	<i>Purchase price of wholesaler plus marketing costs and margins</i>	5500	–
IV	Marketing cost and margins of retailer	2000	2400
	(a) Hamali from point of purchase to tempo	10	2
	(b) Transport to retail outlet	2	109
	(c) Miscellaneous expenses such as cess to corporation, watchman for unsold stock	2	105
	(d) Wastage	800	70
	(e) Retailer's margin	1186	2114
	<i>(f) Sale price of retailer</i>	7500	8500
V	Share of farmer (%) in retailer's price	46.5	71.76
VI	Marketing costs as % of retailer's price	20.43	3.36
VII	Marketing margins as % of retailer's price	33	24.88
VIII	Modified measure of marketing efficiency (MME)	0.87	2.54

## 15.5 PostHarvest Losses to Farmers

The pomegranate crop is subject to huge postharvest losses as this crop is highly susceptible to oily spot disease which has become a serious threat for pomegranate growers. Cloudy weather and intermittent rainfall result in this disease which spreads very easily. This disease causes black spots on the fruit which split the fruit,

resulting in enormous yield losses. In a survey conducted in Maharashtra ([www.promedmail.org](http://www.promedmail.org)) in 2007–2008 by the National Research Centre on Pomegranate, oily spot was found to be the main disease, with 100% infection in some orchards. The prevalence of this leads to a severe supply constraint on the crop and consequent rise in prices. No commercial pomegranate cultivar has been found to show any resistance to oily spot. Besides oily spot disease, there is damage to the produce due to bore and anthracnose which causes huge losses. On the field, scorching heat also causes cracking of the fruit. After harvest, the crop is normally traded in the APMC where the farmers bring the produce in crates of 20 kg each. The traders who buy the produce from the farmer often transport it to distant markets. This crop is mainly grown in Maharashtra, but there is huge demand throughout the country as well as in international markets due to the nutritive and medicinal properties of the fruit. During transport, there is injury to the crop due to friction, and also secondary infection of the fruit, which leads to rotting of the fruit causing huge postharvest loss.

However, when farmers sell their produce to the agent of the company as in case of sale to DFPCL, the storage structures are of better quality and hence, there is less decay in the produce. Corporates also have better transport and packaging facilities which reduce postharvest loss. Furthermore, since corporates like DFPCL provide technical knowhow to farmers, the fruit produced is of superior quality and subject to minimal damage. Farmers, therefore, benefit greatly through backward linkage in terms of appropriate extension services.

## 15.6 Broad Conclusions and Policy Implications

The organized agri-retail sector is making attempts to expand although it is still at an infant stage. A number of factors such as urbanization and rising per capita incomes are encouraging corporate entry into organized retail. Customers mainly from upper middle and high-income categories prefer supermarkets, because there are several potential benefits associated with purchasing from these markets. Malls and supermarkets are self-service stores offering a wide variety of fresh produce which adds to the convenience of customers. The basic appeal of a supermarket is also the availability of products at competitive prices, and stores being open till late hours so that customers have easy access to these markets. These markets also advertise their products in newspapers so that customers are aware of discount offers. Further, fruits and vegetables are graded, sorted, labelled and well packed, which is convenient for customers. Some consumers feel that supermarkets comply with all standards which suit their requirements, and they can also make payment through credit card and avail of the facility to park their vehicles.

In view of the above benefits which customers tend to reap from organized retail, the entry of corporates like DFPCL is useful. The following policy implications need to be addressed:

1. India is a leading country in fruits and vegetables but only a negligible portion of superior quality production is purchased by organized retail. DFPCL provides extension services to member farmers who have greatly benefited and realized better yields. The customized fertilizers manufactured by the company and advisory services had a great influence on the flowering and there was an increase in fruit size and juice percentage leading to very high-quality produce. The farmers who availed the diagnostic facilities and other inputs in case of pomegranates revealed that the average fruit weight per tree increased by 10% and yield per tree increased by 11.27% more as compared to Agricultural University recommendation. The scale of operations of companies such as DFPCL must therefore be increased, so that more farmers can benefit from cost-effective solutions and complete agronomic advisory service.
2. The same is true with respect to exports. The company provides postharvest infrastructure in the form of pack houses, cool chains and GAP certification and hence, links farmers to overseas markets. However, even in export, the scale of operations must increase.

Overall, the marketing operations of corporates such as DFPCL are very limited and restricted to purchase of superior quality produce. These operations mainly reach farmers who have availed the farm advisory services of DFPCL through expert advice, field visits and crop guidance. Increasing the scalability of such operations will benefit the farmer as well as the consumer, as the quality of produce of the farmer will improve and fetch a higher price while consumers can access it easily at a competitive price.

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**Part V**  
**Farmer Producer Organisations**

# Chapter 16

## Producer Companies and Modern Retail in India—Current State and Future Potentials of Interaction

Anika Trebbin

### 16.1 Introduction

India's food retail environment is going through major changes. Large retail chains are entering the market and are investing in modern supply chains. The emergence of modern retailers in a country's food retail market affects agricultural production and farmers as supermarkets build new or modernize existing supply chains to facilitate the enforcement of stringent quality standards (Berdegué and Reardon 2008). This transformation of supply chains also often goes hand in hand with tighter governance of supply chains. However, this does not have to be considered as a threat, but can be regarded as a chance for India's farmers, given they are well prepared for the changes. A policy environment that builds on the emerging business models of farmer producer organizations (FPOs), which gives producers control over value addition and improves their bargaining power, could be married to the benefits to consumers of well-organized value chains operated by big retailers. Considering the most recent steps taken by the Indian government to open India's retail sector to further foreign direct investment (FDI), more direct cooperation between Indian farmers and big international retail chains is imminent.

This chapter gives a quick overview over recent transformations in the global agro-food system in general and the impacts on small farmers. It then looks at the current state of producer companies in India as well as of modern food retailing in the fresh foods segment in India. After that, current links between this specific form of farmer producer company (FPO) and supermarkets in India are being examined. Finally, conclusions are drawn.

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## 16.2 Agro-Food System Transformations and FPOs

Within the past two to three decades, agro-food systems around the globe have changed drastically. An important feature of these transformations is the increasing degree of concentration and consolidation in the areas of food retailing and food processing as well as in the agricultural input industry (Pimbert et al. 2001). While at the retailing end, powerful transnational companies are able to strongly influence and control production processes and entire value chains through huge market shares in food retail sales in a growing number of countries, companies from the agricultural input industry control ever larger shares of the world's seed, pesticide and fertilizer market. In 2004, the world market share of the four largest firms was 33% in seeds, 38% in biotechnology patents and 60% in agrochemicals (World Bank 2007, p. 136). Such high degrees of concentration of market power among companies from the retailing and input industry leads to growing power asymmetries in the global agro-food system, allowing the more powerful actors to capture most of the value circulating in the system (Humphrey and Memedovic 2006).

At the same time, governments are withdrawing from agricultural marketing, and extension services in the frame of neoliberal political strategies including economic liberalization and deregulation and public marketing boards are being dismantled (Biénabe and Sautier 2005). This leaves farmers without alternatives to the solutions offered by the private sector, or even with very few technical and financial services in case the private sector excludes them. As a number of case studies have shown, especially smallholder farmers in developing countries are affected by these trends and find themselves on the margins and under increased threat to their livelihoods (Markelova and Mwangi 2010; Masakure and Henson 2005). Because of the small size of operation, small farmers are not only unable to create scale economies, have low bargaining power because of low quantities of marketable surplus, they also lack capital, knowledge, information and market access, and suffer from market imperfections, and poor infrastructure and communications (Barham and Chitemi 2009; Biénabe and Sautier 2005; Mercoiret and Mfou'ou 2006; Teshome et al. 2009). This is also the case in India where smallholder farmers, who cultivate less than 2 ha of land, account for the overwhelming majority of farming households (Misra 2008).

Against this backdrop, collective action and FPOs have gained renewed interest in recent years from governments, donors and NGOs alike, who see them as appropriate institutions for building capacity among farmers by helping them participate in more competitive and globalized market environments (Rondot and Collion 2001; World Bank 2007). Collective action is understood here in the rather wide sense of a "voluntary action taken by a group to achieve common interests [whereby] members can act directly on their own or through an organization" (Meinzen-Dick and Gregorio 2004, p. 3). As such, collective action can exist in the absence of farmer organizations, which are understood here as a formal expression of collective action in the agricultural sector. Farmer organizations can be oriented either towards improved production or marketing, or both. They often act as multipurpose organizations that offer a wide range of services to their members, independent of

the specific type of organization, for example in the areas of production technologies and input supply, marketing, financial services, education, health, welfare and environmental conservation (Hellin et al. 2009; Markelova et al. 2009; Narrod et al. 2009; Rondot and Collion 2007).

As such, farmer organizations are nothing new, but the forces that are driving transformations in agricultural marketing systems worldwide also appear to affect the types of FPOs that are operating today. Generally, FPOs can take many different forms, varying in size and the services they provide (Trebbin and Hassler 2012). They can be formal cooperatives, associations, societies or informal village self-help groups and commodity interest groups. The new types of FPOs that are being discussed in contemporary literature as a means for improving smallholder market access are radically different from those that traditionally exist in rural societies. The latter are inward-oriented, often informal and operate autonomously among rural communities to regulate the relations between their members. Their bonding function and welfare orientation are the main attributes of these types of FPOs. The new types of FPOs, in contrast, are outward-oriented, their main purpose being to perform a bridging function and act more as interface structures between their members and the external world. They are formal types of FPOs, organized on economic principles but rooted in local customs. Compared to the inward-oriented type, they are run in a more professional way and are more exclusive with regard to their membership (Onumah et al. 2007; Rondot and Collion 2001). However, informal groups often still form the basis onto which formal groups are built to connect a larger group of farmers to a targeted market.

The increasing demand for farmer organizations to play a greater role in agricultural development and poverty reduction through the empowerment of farmers can be interpreted as part of a trend of neoliberal transformation of states towards more streamlined and efficient institutions. Regarding the agricultural sector, neoliberal policies follow the International Monetary Fund's (IMF) and World Bank's objective of getting "governments out of agricultural operations and [putting] the farmers in charge" (Rondot and Collion 2001, p. 1). Further it is argued that "to be in charge, farmers need strong and independent farmers' organizations" (Rondot and Collion 2001, p. 1) which often fill the gaps created when governments pull out and the private sector is slow to take over. It needs to be stressed here, however, that in most cases, farmer organizations do not form by themselves, but formation is supported by an outside agent. Indeed, the strong promotion of farmer organization in recent years is seen by some as "a new mode of economic and social regulation" (Rondot and Collion 2001, p. 3) to replace governments' hierarchical coordination.

### 16.3 Producer Companies in India

The new concept of producer companies in India, which has been introduced into the company law with the amendment of the Companies Act 1956 in 2002 (Kumar Sharma 2008), corresponds well with the new form of farmer organization outlined in the previous section. The primary goal of producer companies is to link

smallholders to markets, i.e. to larger corporate buyers. The model was created at the sight of increasing corporate investment in the food retail, food processing and agricultural sector in India which also directly impacts Indian farmers, and with the thought that without “effective organization, Indian farmers are likely to face either a life of continued poverty and exploitation at the hands of those controlling value chains, or progressive isolation from active involvement in economically viable agricultural activities” (Croucher 2010, p. 6).

Producer companies are basically farmer-owned micro-enterprises, which can be regarded as hybrids between private companies and cooperative societies. The producer company concept intends to combine the efficiency of a company with the “spirit” of traditional cooperatives, while eliminating any possibility of state interference (see Table 16.1). The latter has played a considerable role in the decline of the traditional cooperatives in India, which have lost their once good reputation amongst farmers as organizations that work in their interest (Datta 2004).

**Table 16.1** Key differences between cooperatives, producer companies and private companies in India. (Source: Interview with Action for Social Advancement (ASA), Mondal 2010)

Parameter	Cooperative	Producer company	Private company
Registration	Cooperative Societies Act	Indian Companies Act	Indian Companies Act
Objective	Single objective	Multiple objectives	No specific objective (should be lawful)
Membership	Any ten or more individuals not belonging to the same family, cooperatives	Any individual, group, association engaged in primary production	Any two individuals or companies
Area of operation	Limited to villages, districts, maximum to state level	Can operate across the country	Can operate across the country
Voting rights	One member, one vote, but government and registrar of cooperatives hold veto power	One member, one vote, members not having membership cannot vote	Governed by the Article of Association
Role of registering authority	Significant	Minimal	Minimal
Reserves	Created if there are profits	Mandatory to create every year	Governed by the Article of Association
Scope of business tie-ups with other organizations	Mandatory to make business agreements with the same type of organization	The company can make agreements with any other business organization on national or international level	Has business flexibility as per their Article of Association and not restricted by law
Liability of members	Limited or unlimited, depending on the type of cooperative	Limited to the amount paid on shares (company limited by shares)	Limited or unlimited by the Article of Association

The producer company law, therefore, contains some important changes compared to the cooperative law (see Table 16.1). Producer companies are entirely owned by the producers themselves, i.e. only by persons engaged in any activity connected to primary produce. Producers become members of a producer company by buying shares whose value typically ranges between ₹ 10 and 100 (US \$ 0.16–1.60) to allow even the smallest farmers to join. Being a shareholder gives the farmers a voting right in the decision-making process of the company. The professional management of producer companies through a chief executive, who is selected and controlled by the company's board of directors, is one of the most important features of this new model of farmer organization. The chief executive is mainly responsible for gathering market information and establishing market linkages, and also for production planning and ensuring the timely supply of production inputs.

As such, producer companies fulfill a bridging function between their members and the market. Their main objective is to tap remunerative markets successfully by increasing their members' capabilities as suppliers of high-quality produce. Most producer companies spend extensive time and resources in training their farmers in production methods and technologies and ensuring the timely availability of quality inputs. As is the case for farmer organizations in general, producer companies can generate economies of scale in input purchase as well as produce marketing, lower transaction and coordination costs compared to individual farmers entering markets, and increase bargaining and countervailing power towards larger market actors.

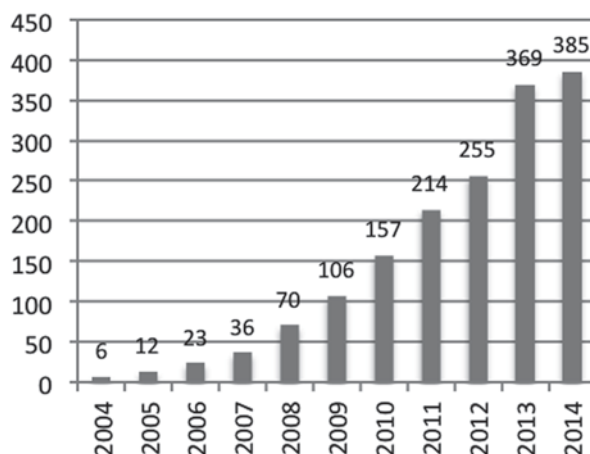
Currently, there are about 463 producer companies in 27 out of India's 36 states and union territories, half of them in only four states, namely Madhya Pradesh, Maharashtra, Tamil Nadu and Gujarat (see Table 16.2). Most of the Indian producer companies were formed quite recently, between 2011 and 2014 (see Fig. 16.1). Although data on their activities are not available for all producer companies, it can be generally said that more than two thirds of all producer companies are active in agricultural activities, while only very few are active in the areas of handicrafts, energy (bioenergy), fishery and forestry. Most of the agricultural producer companies in India grow several crops, with fruits and vegetables, grains (wheat and rice) and pulses being grown by more than half of all producer companies. Other focus crops are cotton, soybeans and nuts (cashew, groundnut and coconut). Around 20% of Indian producer companies apply organic production methods, and about 25% are engaged in postharvest processing.

In addition to crop production, taking care of input supply is an important activity of producer companies, as input supply from the government is often inadequate with regard to quantity and quality, as well as timely aspects of supply. Around 30% of all producer companies undertake their own seed production, since the seeds of their choice are either unavailable altogether, not available at the needed time or expensive. Also, about one third of all producer companies act as agricultural input supplier to their member farmers through their own outlet. A small number of producer companies have even acquired or applied for fertilizer, pesticide or seed licenses and act as agricultural input dealers in their village, selling also to non-

**Table 16.2** Distribution of producer companies in India across states

State	Number of producer companies (December 2014)	Percentage of producer companies in India (%)
Total	462	100
Madhya Pradesh	68	15
Maharashtra	66	14
Tamil Nadu	52	11
Gujarat	41	9
Rajasthan	37	8
Uttar Pradesh	35	8
Kerala	15	3
Orissa	15	3
Bihar	14	3
Karnataka	14	3
Punjab	14	3
Telangana	14	3
West Bengal	12	3
Jharkhand	11	2
States with less than ten producer companies: Haryana, Mizoram, Andhra Pradesh, Delhi, Uttarakhand, Assam, Meghalaya, Chhattisgarh, Jammu & Kashmir, Sikkim, Andaman & Nicobar, Goa, Tripura	54	12

**Fig. 16.1** Cumulative number of producer companies in India (by registration date). (Source: Authors' own survey and SFAC, 2015; Note: the gap between the total of 463 producer companies and the 385 displayed here is because for 78 producer companies registration dates were unavailable)



member farmers. Engaging in agricultural inputs supply allows producer companies to earn margins, overcome the costs of administration and start to earn profits.

However, earning profits is not the main aim of all producer companies. Generally, one can distinguish between four broad types of producer companies: (a) those

that are being set up with the help of a non-profit promoter such as an NGO or a government agency with the aim of the company to focus mainly or exclusively on welfare and community issues, (b) those that are being established with the help of a non-profit promoter with the aim of being outward-oriented, i.e. focus on business, (c) those that are being set up with the help of a for-profit promoter such as a supermarket chain, an agricultural input supplier, or a food processing company, with the aim of solving community issues, i.e. be inward-oriented, and last (d) those that are being set up with the help of a for-profit promoter in order to focus on marketing of produce (Trebbin 2014). Type B and D producer companies are by far the most common in India. While the non-profit sector started to promote and set up producer companies, the private (for-profit) sector is now following suit after a couple of the early companies have shown first stories of success. Another general rule is that producer companies often start their activities by focusing on internal issues, i.e. are inward-oriented, and then expand their activities into business-focused areas once they have stabilized. By the time they have taken this step, they can start to develop market relationships and move to becoming procurement companies, for example for a retail chain, also undertaking some value addition like grading and packing.

## 16.4 Fresh Foods Retailing in India

In India, food items constitute more than half of the average Indian consumer basket. Fresh foods such as fruits and vegetables play an especially important role in the Indian diet. But it is this segment in which modern retailers in India struggle the most to organize supply chains. Generally, there are fresh products which can move over larger distances, such as apples, pomegranate, grapes, oranges, potato and onion. As stated by Reliance Fresh, one of the major food retailers in India, product groups that move across the country account for about 7% of the fresh foods assortment basket. Another 17% travels around 500–750 km to the stores, 24% from within the vicinity of 250–500 km and around 50% of the produce comes from within 100–250 km. Compared to the product groups that can be traded over larger distances, organizing the daily supply of highly perishable products that constitute the majority of the retailers' assortment baskets, is a greater challenge (Trebbin 2014).

Naturally, fresh food items need to look appetizing and healthy on supermarket shelves. To be able to do this, modern retailers not only need sophisticated enough logistics, they also need reliable sources of quality products. Both are a challenge in the current Indian setting. Transport and storage infrastructure is underdeveloped. Fresh food items change hands between up to eight different middlemen before reaching the final consumer. As a result, transport times are long while shelf life is short. With that said, it is hardly surprising that 30–40% of fresh food items are going to waste on their way from farm and fork (Trebbin and Hassler 2012).

Finding farmers who can supply products of the desired quantity and quality is another challenge. Eighty percent of Indian farmers work on land smaller than 2 ha.



With limited technology, market information and finance available, they are often not able to meet supermarkets' high product standards. As a result, traditional markets still play an important role in the sourcing strategies of modern retailers in India today. At present, they apply a mixture of establishing new supply chains and using the traditional trading system. Here, supermarket chains either operate through (1) a centralized system of collection and distribution centres with or without direct support for the farming community, (2) so-called contact farming arrangements where produce is picked up from the farms and often inputs are supplied to the farmers, or (3) the renting out of retail space to concessionaires and purchasing agreements with traditional traders (Trebbin 2014).

In all of these strategies, the retail chains still rely on the traditional wholesale markets as a kind of backup or reserve source of products in case the other channels do not deliver as expected. Future Group, for example, which is the leading corporate retailer in India but which has a relatively low share of fresh food sales, currently purchases 80% of the fresh produce through its system of farm collection and distribution centres, and 20% from the agricultural produce market committee (APMC) markets (interview with Future Group in 2012). Reliance, which has a much greater share of fresh food sales, buys around 60% of their requirements from farmers in a similar system of collection centres, and gets the remaining 40% from the APMC markets (interview with Reliance in 2012). Mother Dairy, which sells exclusively fresh fruits and vegetables in its outlets called SAFAL in and around Delhi, procures around 60% of its supplies from farmer associations, 20% from village aggregators and another 20% from the APMC markets (interview with Mother Dairy in 2012). For all retailers in this study, the current APMC market prices remain the benchmark in the price discovery process between any of these companies and the supplying farmers. This was also found in a similar study by Punjabi and Sardana (2007). In most cases, the direct contact between farmers and retailers in India remains rather loose and few retailers are yet active in establishing forms of governance in their supply chains that would allow them to execute stronger control over farmers.

## **16.5 Current Links Between Producer Companies and Modern Retail in India**

In such a scenario, FPOs in general and producer companies in specific, have the potential to develop into interface structures between an increasingly sophisticated market demand and smallholder farmers in India by establishing and managing direct links between modern retailers and farmers, minimizing the role of intermediaries in the supply chain. However, there are relatively few examples of modern retailers sourcing from farmer organizations till date. On one hand, this can be attributed to a lack of capabilities among the producer companies. However, it also has to be taken into account that it takes an average 3–5 years to build a producer company that can successfully operate its marketing business while, at the same

time, managing its internal and production-related issues. Not many producer companies in India have reached these stages yet.

On the other hand, the low number of successful links between producer companies and modern retailers can be attributed to a lack of targeted support for this new form of farmer organization. Therefore, the overall experience of modern retailers with producer companies are oftentimes negative and the expectations of what producer companies can deliver with regard to product quality and timely aspects of supply are low. Another factor, which is to date inhibiting stronger relations between producer companies and modern retailers, is the low quantity requirements of modern retail in the area of fresh products. Only a very minor portion of the fruits and vegetables that is sold in India's retail sector is sold through organized retail, i.e. supermarket chains. In the case of India in the fruits and vegetables segment, supplies from farmers still exceed demand from retail chains by far, when it comes to quantities. Supermarket chains, therefore, are not able, nor willing to pay producer companies as suppliers of fresh fruits and vegetables higher than market prices. The only way they see for producer companies to increase their income is to reduce post-harvest losses and increase their income by actually marketing more and better produce.

However, taking into account the new and more liberal policies regulating India's retail sector, allowing for more FDI, it is likely that more (multinational) actors will enter the Indian market in the future. Especially with regard to international and multinational actors, it can be expected that they will put an even stronger focus on quality standards, as they have to retain an international reputation. Additionally, new and foreign entrants into the Indian food retail market might find it more difficult to work in the specific Indian environment and establish relationships with, and build trust among, traders and farmers. These new actors, therefore, will possibly be looking for capable business partners whom they can formally integrate into their supply chains to do the sourcing of fresh products for them. A well-managed and professionally run producer company might undertake the role of such a partner.

## 16.6 Conclusions

India's agro-food sector is undergoing profound transformations that have been triggered by a more liberal policy with regard to FDI in the country's food retail sector, but also in the food processing industries. The activities of large (multinational) companies in those areas are also changing marketing channels and effects are reaching down to the farmers as requirements for their products are also changing. There is scope for producer companies in India to become part of these companies' supply networks.

A mature producer company has the potential to benefit its member farmers in many different ways: make sure member farmers have quality inputs (including finance) at hand at the right time; introduce proper production and post-harvest techniques among member farmers; plan and organize production flexibly on many

small units which allows them to flexibly serve specialized demand; access subsidy schemes to set up joint infrastructure, such as green houses, storage facilities, irrigation infrastructure or cooling chambers; and enter into legal contracts with buyers to reduce the kind of insecurities and risks that often exist in farmer–supermarket interactions.

Despite those benefits, relatively few producer companies have succeeded in entering into purchase agreements with modern retail or food processors till date. In addition to the low quantity requirements by supermarket chains that were mentioned above, this can be, in part, attributed to the fact that it takes an average 3–5 years to build a producer company that can successfully operate its marketing business while, at the same time, managing its internal and production-related issues. Not many producer companies in India have reached these stages yet. On the other hand, the low number of successful links between producer companies and modern retailers can be attributed to a lack of targeted support for this new form of farmer organization. Therefore, the overall experience of modern retailers with producer companies is oftentimes negative and the expectations of what producer companies can deliver with regard to product quality and timely aspects of supply are low.

However, as government support for farmer organizations in general and producer companies in particular has increased since 2012 and successful, matured producer companies are also assisting in the setup and management of new producer companies, it can be expected that more of these organizations will reach stages of stability and maturity in the coming years. At the same time, an increased demand for high-quality foods from modern retailers and the modern food processing industry can also be expected. It also remains to be seen how international retailers who enter the Indian market react to the producer company model. It is likely that, given their lack of knowledge of the specific Indian environment, it will be harder for them to establish relationships with, and build trust among, traders and farmers. These new actors, therefore, will possibly be looking for capable business partners whom they can formally integrate into their supply chains to do the sourcing of fresh products for them.

In addition to being direct suppliers to modern retail or food processing companies, producer companies also have the potential to develop into business hubs in rural areas. As such, they channel farmers' input purchase and output sales creating a win-win situation for all parties involved. Because of the large number of farmers organized under the umbrella of a producer company (several hundreds to thousands), agricultural input suppliers can reach a large number of customers at a time. This again allows the producer company to negotiate a favourable price and pass this benefit on to its members. Additionally, acting as an input dealer, producer companies can generate working capital, as retail margins in agricultural inputs can be as high as 50% or more. With regard to marketing of their farmers' produce, these companies would not automatically have to target the modern retail or food processing sector, but could establish direct marketing channels to high-end consumers, export markets or open their own retail outlets.

Regarding the entities that are best suited to promote producer companies, experience so far suggests that a mixed promoter consortium of NGOs, input suppliers

and potential buyers might be a possible solution to ensure a balance of interest between welfare and business orientation of producer companies. Once tested in the field, a respective clause might be included in the producer company legislation. At the same time, and to stir greater interest and motivation among corporate buyers, the legislation on food retail in India might in the future include a clause on a certain percentage of fresh produce that has to be procured from farmer groups. Here, however, it needs to be stressed that producer companies are not the only possible option of collective action in India and that other well-functioning forms of FPOs should be treated equally.

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# Chapter 17

## Farmer Producer Organizations in India: Policy, Performance, and Design Issues

Amar KJR Nayak

### 17.1 Background

During the past 10 years, the focus of national government, state governments, and various international development agencies including the UN Agencies viz., the World Bank, UNDP, and FAO has been towards promoting producer organizations (POs) in India. In the period 2014–2015, the government made additional provision of ₹ 200 crores for NABARD to set up 2000 producer companies (PCs) in India within 2 years.

A PO is a generic name that represents different forms of community organizations, namely, self-help group (SHG), federation of SHGs, common interest group (CIG), joint liability group (JLG), farmers club, primary agricultural cooperative society (PACS), PCs, large cooperatives, etc. Indeed, POs in the form of producer cooperatives have been in India for over a 100 years since 1904 (Mishra 2010). Despite the long history of POs in the country and great emphasis of the government and development agencies to restructure, revive, and renew them with the suggestions of A. Vaidynathan Committee, these cooperatives have been far from being viable in the Indian socioeconomic and political environment.

To overcome the local political dynamics, in 2001, the Y K Alagh Committee recommended that the farmer PO be registered as PC under section IXA of the Companies Act, 1956. However, despite this change in legal status of POs as a company with features of cooperatives, state provisions for cooperatives and the huge investments made by the government including development agencies during the last decade, the operational stability, financial performance of POs, and net incomes to farmer/producer members have been much below the expectations (see Table 17.1 for details).

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Table 17.1 Producer companies and basic details

PO/PC, name and year of registration	External institutional support	Number of members and geographic spread	Ownership (equity base in ₹)	Scope (product basket)	Technology	Management	Market landscape	Performance (services received)	Gross turnover/month/member in ₹
1 Masuta PC Ltd. (2005)	NABARD, Central Silk Board, National Handloom Development Council, Eco-Tasar	1937, 4 states	146,65,400	Tasar yarns (Job Work to members)	Simple technology	Staff appointed by the promoter	National market and exports	Supply of raw material and training of members for job work	1390
2 Vanilla PC Ltd. (2004)	NABARD, SFAC, UBI	3000, 14 districts of Kerala	26,00,000	Vanilla	Simple and advanced technology	CEO, Local members	National market and Exports	Provides technology for value addition and marketing	280
3 Indian Organic Farmers PC Ltd. (2004)	Spice Board Coconut Board	1404, 24 villages in 3 districts	6,04,000	Spices, coconut, cashew, and rice	Advanced technology	CEO, Staff	Exports on order	Training of members, value addition to cocoa	833
4 Vasundhara Agri-Horti PC Ltd. (2004)	NABARD, Procis	54 PCs of 50,000 producers, 6 states	200,00,000	Cashew and mango	Advanced technology	MD, Professionals	1300 km	Purchase of raw produce and value addition	74
5 Rangasutra PC Ltd. (2004)	UNDP, NABARD	1025, 4 states	4,95,000	Textile garments (Job Work to members)	Simple and traditional technology	CEO, Professional staff	National market	Supply of raw materials and training for job work	2500

Table 17.1 (continued)

	PO/PC, name and year of registration	External institutional support	Number of members and geo-graphic spread	Ownership (equity base in ₹)	Scope (product basket)	Technology	Management	Market landscape	Performance (services received)	Gross turnover/month/member in ₹
6	Khujner PC Ltd. (2006)	MPDPIP, Government for fertilizers	3068, 30 villages	3,06,800	Seeds of soya bean and wheat	Simple technology	CEO, Professional Staff	Local Markets, mostly SHGs,	Provide inputs and training	410
7	Hardol Vegetable PC Ltd. (2006)	MPDPIP, Government for fertilizers	2163, 45 villages	3,02,000	Seeds of wheat, chana (gram), mustard, and soya bean	Simple technology	CEO, Professional staff	Local markets, mostly SHGs	Supply of inputs, training on use of inputs	1500
8	Rewa PC Ltd. (2006)	MPDPIP, Government for seeds	3141, 250 villages	3,14,100	Seeds of chana (gram), wheat, and soya bean	Simple technology	CEO, Professional staff	Local markets, mostly SHGs	Inputs and training	660
9	Neshkala PC Ltd. (2006)	MPDPIP, Government for fertilizers	1400, 150 villages	2,91,000	Seeds of wheat, soya gram, and bean, and mustard	Simple technology	CEO, Professional staff	Local markets, mostly SHGs	Providing inputs on training for using fertilisers	833
10	Devnadi Valley PC Ltd. (2011)	NABARD	856, 40 villages	11,00,000	Vegetables	Advanced technology	CEO, Professional staff	Local markets, restaurants, housing colonies	Supply of inputs and advisory services	1360



Table 17.1 (continued)

PO/PC, name and year of registration	External institutional support	Number of members and geographic spread	Ownership (equity base in ₹)	Scope (product basket)	Technology	Management	Market landscape	Performance (services received)	Gross turnover/month/member in ₹
11 Devbhumi Natural PC Ltd. (2007)	NABARD	4300, 350 villages	18,00,000	Spices, honey, silk yarn, kidney beans	Advanced technology	Professionals	Through outlets in the nearby markets	Training of members and marketing of produce	220
12 Kabini Organic Farmers PC Ltd. (2010)	Rabo Bank foundation, ETC India,	1500, 42 villages	7,50,000	Cotton, Spices, finger millet, and ragi	Simple technology	Directors and appointed staff	300 km from the company	Training to farmers and supply of organic inputs	553
13 Small and Marginal Agril. PC Ltd. (2012)	Rabo Bank Foundation	600, 30 villages	1,00,000	Vegetables, fruits	Advanced technology	Professional staff	Outlets in Chennai	Intends to provide marketing facility	Negligible
14 Grameen Aloe PC Ltd. (2009)	UNDP	325, 30 villages	2,50,000	Aloe vera	Simple technology	CEO, Local members	Local markets Retailers	Supply of inputs and marketing facilities	128
15 Krushi Dhan PC Ltd.	NABARD	200, 4 districts	1,00,000	Agri inputs; now planning for agri produce	Advanced technology (inputs)	Professionals appointed by Promoter	Outlets for supplying agri inputs	Provides agri inputs to the farmers	270

Table 17.1 (continued)

PO/PC, name and year of registration	External institutional support	Number of members and geographic spread	Ownership (equity base in ₹)	Scope (product basket)	Technology	Management	Market landscape	Performance (services received)	Gross turnover/month/member in ₹
16 Mahila Umang PC Ltd.	Pan Himalayan Grassroots Development Foundation	2500, 1 district	1,70,800	Fruits, honey, spices, and hand-knitted woollen items	Simple technology	Local members	National Markets and now markets within 500 km	Value addition and marketing of the products	700
17 Amalsad Vibhag, Vividh Karyakari Sahakari Mandali	Cooperative Department, Government	7934, 17 villages	9,91,200	Fruits, grocery items through village retail, agri inputs, health, etc.	Simple technology and good packaging technology	Board of directors, chairperson and appointed staff	Local markets	Provides agricultural inputs and agricultural implements, retail services in the villages, and health facility	4683
18 Mulkanoor Women's Cooperative	Mulkanoor Cooperative Rural Bank, NDDDB, ALC	21000, 110 villages	192,75,550	Milk	Best dairy technology	Local members with some technical experts	Local markets	Training for the members and cattle insurance	2780
19 Karnataka Milk Federation	Karnataka State Govt. and NDDDB	2.23 million, 13 districts	NA	Milk	Best dairy technology	BoD and supported by staff	Whole State market	Training, feed supply and veterinary services	2740

Table 17.1 (continued)

PO/PC, name and year of registration	External institutional support	Number of members and geographic spread	Ownership (equity base in ₹)	Scope (product basket)	Technology	Management	Market landscape	Performance (services received)	Gross turnover/month/member in ₹
20 Kaira District Cooperative Milk Producers' Union (AMUL)	NDDDB	3.18 million, 24 districts	NA (Net Fixed Assets: 198 crores)	Milk	Best dairy technology	Board of directors, professional staff	National markets through outlets and retailers	Provides cattle feed and veterinary services for the cattle	6810
21 Nava Jyoti PC Ltd.	Sustainability Trust, NAB-ARD, XIMB, Rabo Bank Foundation, ORMAS, TIDCCOL and NISWASS	700, 55 villages	1,00,000	Pulses, spices, cereals, millets, fruits, vegetables, minor forest produce, etc.	Sustainable agriculture and local value addition	Trained local youth and the BoD members with the help of external mentors from NISWASS and XIMB	Local markets, and Bhuaneswar (within 200 KM)	Training, capacity building of local coordinators, BoD members, value addition, and marketing. Support on sustainable agriculture, emergency credit, community health and basic infrastructure	1125

The traditional design of industrial corporations, viz., economies of scale and specialization, is being thought of as the way forward to make POs/PCs efficient (Singh 2008; Murray 2008). Caution on *size* with regard to organizational design for overall long-term sustainability has been fairly referred to in the past (Schumacher 1973) and with specific reference to cooperatives in India (Reserve Bank of India 1915; Mehta 1960). While ‘economies of scale’ has been the basis of efficiency in industrial production since 1776 (Adam Smith 1776), the significance of *scope* and diversity has appeared in several writings (Marx 1927; Kondratiev 1921; Panzar and Willig 1975; Teece 1980; North 1984; Nayak 2013c). Similarly, while intensive technology has been the basis of competitive advantage in the industrial production, appropriate and local *technologies* have been cited as the basis of efficiency and sustainability in agriculture (Howard 1940; Shiva 1993; IAASTD 2009; Collette 2011; Gopalakrishnan 2012; UNCTAD 2013). While Adam Smith’s study (1776) and Mason & Mason (1994) highlight the significance of private ownership to efficiency; the significance of *ownership* in the form of trusteeship (Sethi 1986) and common property (Ostrom 1990) has also been discussed in recent literature. Similarly, the significance of managerial skills in industrial production is appreciated since the early period of industrialization, (Taylor 1997; Barnard 1968; Chandler 1993), and the significance of grass root level *management* to farmer POs have also been highlighted (Nayak 2013a).

In the above context, the author argues for simultaneous design of the five organizational design parameters viz., size, scope, technology, ownership, and management with reference to farmer POs. Based on the empirical observations, it provides some policy recommendations on internal organizational design issues and external issues of market landscape and resource convergence from the district administration for strengthening the demand side community-based people-driven cooperative organizations.

## 17.2 Research Methodology

This chapter is based on an all India baseline survey of 258 POs with a focus on PCs including detailed case studies of 21 POs during 2011–2014. Detailed case studies included 17 farmer PCs, one multiproduct multiservice cooperative, and three established dairy cooperatives. This was complemented with findings of an action research on developing a sustainable PO, Nava Jyoti Producer Company during 2007–2014<sup>1</sup>.

The organizational design issues for analysis included the following: (a) *size* of membership and geographic spread of members, (b) *scope* of activities undertaken and the basket of produce that it collates from the members, (c) *technology* in terms of agricultural production technology and processing technology for value addition, (d) *governance* in terms of who manages the organization and bears the cost of

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<sup>1</sup> Please see this on <http://www.navajyoti.org/> or <http://centre.lbsnaa.gov.in/nscs/>

management, (e) *ownership* in terms of contribution of the members and their level of participation in the decision-making processes (see Table 17.1 for comparative analysis of PO).

## 17.3 Empirical Observations

### 17.3.1 *Size*

On the one hand, there are very large POs. For instance, Masuta PC has over 1.46 lakh members from as many as four states. (VAPCOL PC) has over 50,000 members spread over six states. Madhya Pradesh District Poverty Initiatives Project (MPDPIP) promoted that PCs have membership in the range of 3000–4000 spread over a district. The dairy cooperatives usually have large member base. Amul has as many as 3.18 million members from the whole state of Gujarat. Karnataka Milk Federation (Nandini) has a membership base of 2.22 million from the whole state of Karnataka.

On the other hand, there are smaller PCs such as Devnadi Valley, which is a PC with only 856 members; Amalsad cooperative with 7934 members in 17 villages; Nava Jyoti designed for 1000 members within a geographic spread of two Gram Panchayats with about 4000 ha of watershed area. Of course, the SHGs consist of only about 15 members. While small size is preferred in terms of better social capital, they are commercially not viable. The very large cooperatives are too large for each member to identify themselves with. The financial returns per individual members from these very large cooperatives in terms of both membership size and geographic spread seem to be unsustainable in the present design and architecture.

### 17.3.2 *Scope*

The scope of POs varies from single product to multiple products. However, most of the POs are tending to focus on fewer products and activities. Most PCs under MPDPIP are seed-producing companies, viz., Khujner PC, Hardol PC, Rewa PC, and Neshkala PC. Dairy cooperatives like Amul, Karnataka Milk Federation (Nandini), and Mulukanoor Women's Dairy Cooperative focus on procuring a single produce (milk) from the farmers/producers. Some PCs are focused on leveraging specific capacity or skill of members in the community. For instance, Masuta works on using the reeling and spinning skills of women on tasar silk, while Rangasutra works on the capability of artisans to weave textile fabrics.

Dealing with multiple produce of farmers creates multiple complexities in terms of collection, storage, processing, and marketing. Multiple produce also limits the geographic space for sourcing as well as limits the market landscape. Despite these challenges, some PCs such as Amalsad Cooperative (Gujarat) and DDS supported

Sangham (Andhra Pradesh) have tried to work on multiple produce, providing better incomes to its producer members.

### **17.3.3 Technology**

Technology includes product technologies and process technologies in agricultural production, postharvest management, value addition, packaging, marketing, financial management, and information system management. It is observed that POs/PCs that focus on sourcing single product from large number of producers and cater to large number of customers based in far-off locations use intensive technologies. Vanilco and Indian Organic Farmers Producer Company Limited (IOFPCL) of Kerala are few of this type. Vanilco needs high-tech machines for super fluid extraction. The producers also have to be organically certified if the products were to be sold in far-off export markets. Healing Heritage which is into value addition of herbs and medical plants uses advanced technology for processing as per the pharmaceutical industry standards. Gram Mooligai is another example that has to use advanced technology to supply products to far-off markets. VAPCOL and Masuta also resort to greater technology as they try to move their products to far-off domestic markets or export markets. Masuta has spun off another subsidiary to take care of the complex design and technology issues.

All the large dairy cooperatives like Amul, Karnataka Milk Federation (KMF; Nandini), Mulukanoor, Vijay Visakha that source milk from the farmers are required to increase the shelf life of milk and, hence, adopt the best and costly dairy technologies for storage, transportation as well as marketing and retailing.

Given the small size of some PCs and their small market landscape such as Grammeen Aloe Producer Company and Devnadi Valley Producer Company, they use simple technologies in the operations and processes. Similarly, the artisan-based companies like Masuta and Rangasutra adopt simpler processing technologies at the producer level as the women who work either in reeling operations or weaving operations need simple methods of operations.

### **17.3.4 Governance**

Governance includes both overall governance architecture and routine operations management and governance of the PC. The basic governance structure and top management structure of PC have been provided in the section IXA of the Companies Act, 1956. As per the Act, most PCs do follow this. In some PCs these structures are well developed and well functioning; while in most others, they are still functioning loosely.

As per the Act of PCs, each PC should have at least 5 and not more than 15 directors. Generally the directors are elected by the members. The procedure of election differs from one organization to other. At some places, the company is a federation

of producer groups. In such cases, the groups choose their representatives, who in turn choose the directors. The number of directors depends on the membership of the company that varies from 5 to 15.

The cost of management in most POs is borne by the promoter or donor organizations or by the state government in the first few years. It is observed that even 8–10 years of support does not seem to be sufficient for building capacity of a PC to manage its own affairs. However, there are a few exceptions; IOFPCL and Vanilco bear their managerial expenses on their own. Established dairy cooperatives such as Amul and KMF bear their own operational expenses and get only the audit support from the state government.

### **17.3.5 Ownership**

As per the Producer Company Act, only a producer/farmer can be an owner of a PC. Producer has a broader connotation that is one who directly produces. In addition to farmers, a producer can also be an artisan, craftsperson, fisherman, pastoralist, gatherer of non-timber minor forest produce, etc. Voting right in a PC is on the principle of one member/owner one vote irrespective of the number of shares held. Further, the membership of a PC can be of two types: individual membership and institutional membership.

Accordingly, there are three types of PCs based on membership: companies with individual members only, with institutional members only, and both individual and institutional members. In India, all the three types of companies exist.

Grameen Aloe PC, MPDPIP-promoted PCs, Nava Jyoti PC, Gram Mooligai PC, and Devbhumi Natural Products PC have individual producers as members. VAPCOL, Healing Heritage, and Mahila Umang have only institutional members/producer groups. Rangсутra PC is of the third type, that is, it has five institutional members/artisan groups and the rest are individual members/artisans.

While the basic legal requirements are usually met in most of the PCs, the ownership of physical assets and infrastructure has remained an area of concern. PCs have very limited ownership of assets and physical infrastructure. The fixed assets are usually in the name of the facilitating/promoter organization, viz., NGO or the state government. The ownership of assets in Nava Jyoti PC, and action research project, has been transferred to its members. The ownership in the case of cooperatives and small groups such as SHGs are usually with the cooperatives.

### **17.3.6 Financial Performance**

Despite the huge efforts made, the financial gains to producer members have not been significant. The current average turnover or average gross income for the sample 21 POs including 17 PCs, one multiproduct and multiservice cooperative, and three dairy cooperatives is about ₹ 1492 per member per month. Assuming that the

average cost of production for farmers is 40% for agricultural products and 50% for dairy activity, the average net income is only ₹ 830 per member per month. For PCs, the current average net income is only about ₹ 480 per member per month. Even for the three well-established dairy cooperatives in India, the present net income is only about ₹ 2060 per member per month (see Table 17.1 for gross turnover/income and other details).

If POs are seen as organizations to supplement some additional incomes to the small and marginal producers, then these may not survive for long. However, if POs are visualized as institutions of the people to ensure better demand-side institutions and long-term sustainability, the answer probably is in optimizing the internal organizational design variables and external institutional architecture.

## 17.4 Analysis and Policy Consideration

From the empirical observations and interviews with the various PCs and the promoters of these organizations, we find that the drivers for formation of farmer POs as PCs have been (a) to create a good alternate delivery system to supply external agricultural inputs to farmers on time and at government prices; (b) to directly sell the surplus produce of farmers in the market so that farmers get better price for their produce; (c) to source produce from the producers (farmers/artisans) at a cheaper price by the large retail companies; (d) to facilitate holistic development of small and marginal producers/farmers and long-term sustainability of rural agricultural ecosystems.

Among the above four drivers, the first three drivers have been the prime drivers. The fourth driver has not been a significant driver till now. While the service dimension of the external facilitators for formation of POs has been fair, the capacity of the POs to deliver these services after the facilitator exit from them has largely been weak. In other words, self-reliant POs have been fewer. The financial performance at the producer/farmer level has not been significant in most POs including the much-acclaimed producer cooperatives. The sense of ownership and participation by the members is rather weak in most POs. In other words, the core challenges for PO appears to be the lack of *social capital including trust and cooperation* among the members and within the community, the basis for any cooperative action. This lack leads to high transaction costs, longer stabilization period, and lower financial gains to the members of PO.

The major limitation in the policy has been the lack of *appropriate institutional ecosystem*. In the absence of an appropriate PO for coordinating the external agencies, resource utilization and absorption have been skewed and poor. People tend to view the subsidies and support from the various schemes and programmes as trees with low hanging fruits. Such unintended signals and the consequent opportunistic behaviour of the people lead to chaos and *disruption of the coordination mechanism* in a community. In other words, the absence of a *single optimal coordinating organization at the community level* has been destroying the social capital in India and



this, indeed, is the biggest threat to sustainability of community-based POs (Nayak 2012c).

In the above light, the governments, development organizations, and civil society organizations in their policy, programmes, and implementation strategy on farmer POs need to carefully consider the following issues:

- a. *Social capital formation*: Social capital formation is the foundation for long-term financial capital formation and sustainability. Therefore, sufficient time and budget have to be provided in order to build the social capital among members and community of POs.
- b. *Capacity building*: The efficiency at the community level organization and last mile delivery has been the bottleneck for most development interventions in India, and so has been the case for efficiency of POs in India. Therefore, capacity building of grass root level functional coordinators (local resource persons) of the PO is crucial. In addition, regular training and capacity building of the members of the board of directors of the PO/PC are also equally important. The local interns/coordinators could be trained with the curriculum “Management @ Grassroots” designed and pilot tested by a multidisciplinary team of professors and experts from the fields of social work, sustainable agriculture, and management with financial support of Small Farmers Agri-Business Consortium (SFAC), Department of Agriculture and Cooperation.
- c. *Ecosystem Services*: In addition to marketing the surplus produce of the farmers, a PC has to undertake the responsibility of providing other ecosystem services. It is essential for a PO/PC to provide holistic ecosystem services to its members, such that the members are able to overcome the threats and fear from the traditional service providers, viz., the local traders and local shop keepers. Further, the PO/PC can take up other services related to community health, supervision of primary schools, basic rural infrastructure, etc that are currently not being serviced by the panchayati raj institutions in most parts of India.
- d. *Climate-smart agriculture*: Intensive external input-based agriculture is increasingly becoming unviable for the small and marginal producers across the world. The modern way of agriculture has been adding to global warming and unpredictable climate changes have made agriculture more risky across the globe. Food production is, therefore, perceived to emerge as a global crisis soon. Accordingly, there is an increasing consensus for climate-smart, sustainable agriculture from the UNO, UNCTAD, FAO, and several environmentalist and sustainable agricultural scientists. Indeed for agriculture to be sustainable it needs to be internally consistent with the nature of technology of production and be in synergy with the customer food safety and environmental balance (Nayak 2012a). The central and state governments need to clearly plan an exit strategy from the input intensive green revolution-based technologies in agriculture before it is too late.
- e. *Basic physical infrastructure*: A PO/PC without a roof of its own can hardly have the credibility among the members of the community. It requires the basic facility for meeting of board members, local functional coordinators, external resource persons, and ordinary members; a physical space to run the day-to-day

operations of the company; storage facility for the surplus produce of the farmers; processing facility for drying, grading, and value addition. As the PO/PC increases its volume of transaction, it will require its own transport and marketing facilities. A first step to this is to allocate about 2 ha of common land within the local community to the PO on a lease basis for about 10 years. A minimum membership of 250 small and marginal farmers/producers may be used as a criterion to be eligible for this support.

- f. *Knowledge and resource convergence*: Since rebuilding sustainable system based on cooperative logic will encounter several challenges of unlocking people from the existing logic, language and values of competition and rivalry, this process is quite knowledge intensive. Collaborating with experts who can think out of the box for sustainable solution from the local (district or state) level academic institutions especially in social work, agriculture, and management with the respective PO/PC of the district can be a way forward. A state-level team of 8–10 experts on the subject could be sufficient for the state. This expert team in collaboration with local academic institutions could be given the responsibility to facilitate the development of local expertise at the district and Gram Panchayat (GP) level.
- g. *Organizational design of POs/PCs*: The baseline study shows that there has been no issue with regard to the intention of policies, schemes, and implementing agencies relating to PCs and cooperatives. Indeed the people involved in these activities have shed a lot of their sweat and blood to make PCs and cooperatives work for improving the quality of lives of the poor, small, and marginal producers. The below par performance of POs/PCs especially with regard to financial returns to individual producers is associated largely to the organization design issues. The key design variables viz., *size, scope, technology, governance and ownership* need to be simultaneously optimized for long term sustainability (Nayak 2010). Optimally designed PO/PC could serve as the single window of services for the people and the local government for 1–2 gram panchayats, where all development-related schemes could converge.
- h. *Market landscape*: Even the development experts are often misled on this issue of where to market the agricultural produce of the POs. It is presumed that far-off markets can fetch better price to the producers. While far-off markets may get better gross incomes but it necessarily does not give higher net incomes due to high transaction costs and agency problems.  
Unlike for the large industrial companies, the *market landscape* of the PO consisting of small and marginal producers should be at an optimal distance (say within 200 Km) from the producer community with optimal characteristic distance between the PO and the market in order to reduce transactions costs and enhance net income to the producer members (Nayak 2012b).
- i. *District level institutional architecture of POs/PCs*: In the growing market economic system that is based on external competition and rivalry, POs based on the principles of cooperation do not seem to survive in the long term. The language, logic, and values in the paradigm of cooperation are indeed contrary from those in the paradigm of external competition (Nayak 2014). Hence, setting up POs in isolated pockets without an enabling ecosystem for development of these POs

appears to be futile. The existing market economic systems and target-oriented schemes of the government implemented through multiple departments, agencies, and institutions at the grass root level will gradually minimize the social capital in a community and undermine the functioning and purpose of even an optimally designed PO. However, appropriate architecture of POs at GP level, block level, and district level could ensure long-term sustainability (Nayak 2013b). This will improve coordination and transparency, minimize opportunistic behaviour, reduce transaction costs, improve public service delivery, and lead to self-reliant and sustainable communities.

- j. *Financial capital formation*: While greater social capital formation is the key to long-term sustainability, provision for regular income and other social and health benefits by the small individual members is the key for short-term and medium-term viability of the PO. In other words, if the producer members see the benefits on a frequent basis, s/he is likely to take interest to participate in the activities of the PO and in the process will develop a sense of ownership of his/her PO.

Along with better net incomes to the members, providing various ecosystem services are extremely valued by the small producer members especially in institutionally deficient and opportunistic market systems; common in most parts of rural India. These services are more valued and could facilitate strengthening of POs in their early periods. POs if designed and structured optimally, net income per member (family) can reach up to an average of ₹ 4000 per month within a period of 5–7 years.

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# Retraction Note to: Regulation of Retail: Comparative Experience

Anuradha Kalhan and Martin Franz

## Retraction Note:

The chapter ‘**Regulation of Retail: Comparative Experience**’ authored by Anuradha Kalhan and Martin Franz, and published in the edited volume ‘*Organised Retailing and Agri-Business: Implications of New Supply Chains on the Indian Farm Economy*’, (ISBN: 978-81-322-2475-4) edited by N. Chandrasekhara Rao, R. Radhakrishna, Ram Kumar Mishra, Venkata Reddy Kata, pages 139–157, has been retracted by agreement between Martin Franz and the volume editors N. Chandrasekhara Rao, R. Radhakrishna, Ram Kumar Mishra, Venkata Reddy Kata. The retraction has been agreed as it was submitted by the corresponding author, Anuradha Kalhan, without the knowledge or consent of the other researcher, Martin Franz, listed in the chapter.

All related instances of this chapter in the book should be considered retracted and/or amended as follows.

- The names of authors Martin Franz and Anuradha Kalhan from Contributors on page xv is retracted.
- On page 10, the first paragraph under section 1.3.1 in Chapter 1 is amended as:  
Three chapters in this section examine the overall impacts of organized retail on agriculture, relative roles of public and private sectors and an alternative approach keeping in view equity and environmental sustainability.
- On page 11, first, second and third paragraphs as mentioned below are retracted.  
*Anuradha Kalhan and Martin Franz* review the regulatory... to control the retailing trade.

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