Chapter 1
Implications of New Supply Chains on the Indian Farm Economy: An Overview

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1.1 Introduction

The widespread diffusion of supermarkets[1] (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[2]. India is considered as the last frontier in their development[3], 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

[1] The words "supermarkets" and "organised retail" are used throughout this text interchangeably with similar connotations.

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

[3] Pritchard, Gracy and Godwin (2010) explain this in greater detail.

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N. C. Rao et al. (eds.), *Organised Retailing and Agri-Business,* India Studies in Business and Economics, DOI 10.1007/978-81-322-2476-1_1

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[4], rising middle classes, changing consumption

[4] 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[a], Haryana, Himachal Pradesh, J&K, Karnataka, Maharashtra, Rajasthan[a], 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)

[a]Indicates states where new governments have withdrawn permission

patterns[5], more and more women joining the workforce, access to refrigeration and personal vehicles[6] 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

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

[6] 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[7] 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[8] (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

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[7] 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.

[8] 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[9]. 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

[9] 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[10]. 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.

[10] 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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