

A PERSPECTIVE ON APPROPRIATE TECHNOLOGY TRANSFERS  
PROBLEMS AND PROPOSITIONS

Charles Henderson, Temple University  
Rajan Chandran, Temple University

Abstract

In discussions of the impact of technology transfer, writers have often failed to keep the comprehensive definition of technology transfer in mind. They have most often focused on the supply side of technology transfer and ignored the demand side of technology transfer. The authors present a view of 'appropriate' technology transfers that integrates both the demand and the supply dimensions. The authors examine LDC policies on technology transfers and the role they have played in Multinational Company Strategies in technology transfer. Proposals for making technology transfers more appropriate are offered.

Technology can be comprehensively defined as all the direct and indirect means employed to produce, distribute and consume the need satisfying characteristics of products or services. The transfer of these means between nations by individuals, groups, businesses, or governments has been widely acclaimed by many as a highly significant factor in worldwide socio-economic change.

However, in discussion of the impact or relevance of technology transfer many writers have failed to keep the comprehensive definition of technology in mind. They have most often focused upon the production (supply) and distribution (movement) of technology which includes technology directly embodied in tools and machinery plus disembodied technology in the form of marketing and management techniques. Consequently, they have ignored a most important consideration, namely, the consumers' reasons for desiring any changes in their technology (demand). In the paper an attempt is made to avoid this problem by presenting a view of "appropriate" technology transfer that integrates both the supply and demand dimensions of the issue.

Our remarks are directed towards the relationship between The Multinational Corporations (MNC's) the primary suppliers of this technology and the so called "less developed countries" (LDC's) the demanders of this technology. This choice was based upon two factors: (1) The well known economic power and technological prowess of MNC's and (2) The great amount of criticism directed towards MNC's in the popular literature emanating from the LDC's. Essentially, this criticism is quick to suggest that the technology transferred by MNC's has been economically inappropriate for the "stages of development" at which the LDC's are now positioned and/or too much of a strain upon their existing cultural values and norms. Inability to easily understand and absorb the new technologies is alleged to lead to political and cultural shock, violent rejection of the MNC's as in Iran and a call for appropriate technology by reactionary nationals and external observers faced with this criticism. We can pose the following question: In what evaluative context should such appraisals of MNC's be viewed? What policy possibilities exists to resolve any goal conflicts between MNC's and LDC's that inhibit the efficient use of MNC's as development tools? To provide some insights into these questions this paper proceeds, first, to examine the basic concept of technology transfers, LDC rooted problems and policies,

and the heavy contribution these have made to MNC marketing strategies and goals. Secondly, proposals for making technology transfers more "appropriate" are offered and supported.

In the paper we have attempted to offer a perspective on the issue of technology transfers which may facilitate speedier progress toward goals when scrutinized in context. Although we have offered several proposals to aid in finding a solution, we make no claim that these proposals are exhaustive nor applicable to every technology transfer situation. We have given our support to the "neutral" or "mixed" as opposed to capital or labor intensive strategies for industrial-development but have maintained the position that each country's industrial-development process must be viewed on an individual basis.

It is painfully obvious to anyone who has ever visited a LDC that the standards of living of large portions of the population are far below that of the developed countries and the few industrialized countries of the LDC's. Consequently, discussion of employment and unemployment as means of income production are vital components of the concept of appropriate technology. However, while on an intuitive basis there can be little doubt that increased income (not simply more jobs) would be of tremendous humane and social value, it is not at all clear that a transfer technology can be assessed as "appropriate" or "inappropriate" on the basis of any "unemployment data" alone. The concept of unemployment in LDC's and cross-culturally is far too poorly defined, and the reality itself is perhaps too massive in the short-run to yield to technology manipulations. Yet, we should urgently try to reduce the problem of insufficient income, knowing full well that we need better tools for assessing the progress of the effort. Consequently, a concept of "appropriate" technology was proposed in Section II that focused upon the systematic interaction of development goals and market forces in each LDC. Section II concludes with a sampling of the various attitudes and practices which are thought to prevent or inhibit the implementation of either labor-intensive or mixed strategies. The concept of the interactive context of MNC's is advanced to show that they are actors and acted upon in a LDC cultural system. Any evaluation of the costs and benefits of MNC technology transfer must take this situation into consideration.

In Section III, a review was made of what is known about benefits, costs and control policies. Finally, we make several proposals aimed to make technology transfers more "appropriate" if not "appropriate" in their own right.

In conclusion, LDC's, MNC's, "Developed Countries, and international institutions and organizations must all work together to develop and transfer technologies that promote a pride of achievement among LDC populations. We are aware the cooperation and coordination among so many factions, all seeking to secure and insure their own interests, will prove difficult. However, coordination and cooperation as opposed to conflict is the only means that will secure and insure the existence of so many diverse interests within the rapidly changing, volatile world of today.