

# Issues and Challenges of Market Infrastructure – An Analysis

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## Abstract

Market infrastructure development and certain other price related supports also induce crop shift. Often low volume high-value crops like spices also aid in crop diversification. Higher profitability and also the resilience/stability in production also induce crop diversification, for example sugar cane replacing rice and wheat. Crop diversification and also the growing of large number of crops are practiced in rainfed lands to reduce the risk factor of crop failures due to drought or less rains. India, being a vast country of continental dimensions, presents wide variations in agroclimatic conditions. Such variations have led to the evolution of regional niches for various crops. Historically, regions were often associated with the crops in which they specialize for various agronomic, climatic, hydro-geological, and even, historical reasons. But, in the aftermath of technological changes encompassing bio-chemical and irrigation technologies, the agronomic niches are undergoing significant changes. With the advent of irrigation and new farm technologies, the yield level of most crops-especially that of cereals-has witnessed an upward shift making it possible to obtain a given level of output with reduced area or more output with a given level of area and creating thereby the condition for inter-crop area shift (diversification) without much disturbance in output level. Besides, as agriculture become drought proof and growth become more regionally balanced, there has been a reduction in the instability of agricultural output.

*Key words: Agricultural diversification , India, economy, farm technologies, irrigation.*

## Introduction

The implications are clear that area shifts from crops need not be a problem as long as their productivity levels are increasing faster to compensate for their declining area share. This is what has happened especially in the case of coarse cereals that have been a net donor of area to oilseeds and other commercial crops. Despite their negative area growth of -4.36 percent, they managed to maintain a positive output growth of 1.14 percent thanks to an impressive yield growth of 5.51 percent. Since this pattern is more or less repeated in the case of cereals as a whole, it is reasonable to say that the area shift has not affected food security. On the other hand, since the area shifts were from low-value coarse cereals to high-value oilseeds and since such shifts were accompanied by yield improvements within the oilseed sector, the area shifts have not only increased the overall output of edible oils but also contributed to an enhancement of the income level of farmers. In this sense, the area shifts have actually contributed to broaden the foundation of food security.

The average farm size is only 1.57 hectares. Around 93 percent of farmers have land holdings smaller than 4 ha and they cultivate nearly 55 percent of the arable land. On the other hand, only 1.6 of the farmers have operational land holdings above 10 ha and they utilize 17.4 percent of the total cultivated land. Due to diverse agro-climatic conditions in the country, a large number of agricultural items are produced. Broadly, these can be classified into two groups - foodgrains crops and commercial crops. Due to the challenge of feeding our vast population and the experience of food shortages in the pre-independence era, 'self reliance' in foodgrains has been the cornerstone of our policies in the last 50 years. Around 66 percent of the total cultivated area is under foodgrain crops (cereals and pulses). Concurrently, commercial agriculture developed for whatever reasons in the pre-independent phase also kept flourishing during the post independent period. Commercial agriculture not only catered to the domestic market but has also been one of the major earners of foreign exchange for the country.

### Objective:

This paper intends to explore and analyze **Agricultural Diversification** is the stage where traditional **agriculture** is transformed into a dynamic and commercial sector by shifting and the with impressive economic improvements in the shares of farm and fisheries yield

India has made tremendous progress in the agricultural sector over the last 50 years. From 'hand to mouth' conditions in the early sixties, we have not only become self reliant in foodgrains but have acquired sufficient resilience to tide over the adverse conditions. Wheat production has increased around 10 times and rice production 4 times during this period. These achievements are the result of a policy framework of improving rural infrastructure including irrigation, research, extension, provision of agricultural inputs at reasonable prices, and marketing support through minimum price mechanism.

In spite of the impressive achievements, the Indian agricultural sector continues to face poor infrastructure conditions. Less than 36 percent of the cultivated land is under any assured irrigation system. Farmers on the remaining two thirds of the land are completely dependent on rainfall, which is also greatly characterized by large variations in terms of precipitation both spatially and in time. For a large majority of farmers in different parts of the country gains from application of science and technology in agriculture have yet to be realized. As a result, the productivity levels of many major crops in India do not compare very favourably with the yields obtained in agriculturally advanced countries (Table 1). Further, these factors coupled with high illiteracy constrain the farmer's ability to shift to more remunerative cropping patterns in response to market signals. Therefore, their capacity to take advantage of the opportunities presented by liberalization of trade is limited. The country's agriculture has gained in strength and resilience since independence, although growth in

agriculture is highly skewed over regions and crops. However, the agriculture sector in India is now faced with intense internal and external pressures arising from the impact of policies of economic liberalization. Efficient and effective management of agriculture will be crucial in the years to come for acquiring enduring self-reliance and ensuring sustainable growth with an emphasis on consideration of equity.

## **PATTERNS OF CROP DIVERSIFICATION**

With the advent of modern agricultural technology, especially during the period of the Green Revolution in the late sixties and early seventies, there is a continuous surge for diversified agriculture in terms of crops, primarily on economic considerations. The crop pattern changes, however, are the outcome of the interactive effect of many factors which can be broadly categorized into the following five groups:

- a) Resource related factors covering irrigation, rainfall and soil fertility.
- b) Technology related factors covering not only seed, fertilizer, and water technologies but also those related to marketing, storage and processing.
- c) Household related factors covering food and fodder self-sufficiency requirement as well as investment capacity.
- d) Price related factors covering output and input prices as well as trade policies and other economic policies that affect these prices either directly or indirectly.
- e) Institutional and infrastructure related factors covering farm size and tenancy arrangements, research, extension and marketing systems and government regulatory policies.

Obviously, these factors are not watertight but inter-related. For instance, the adoption of crop technologies is influenced not only by resource related factors but also by institutional and infrastructure factors. Similarly, government policies - both supportive and regulatory in nature - affect both the input and output prices. Likewise, special government programmes also affect area allocation and crop composition. More importantly, both the economic liberalization policies as well as the globalization process are also exerting strong pressures on the area allocation decision of farmers, essentially through their impact on the relative prices of inputs and outputs. Although the factors that influence the area allocation decision of farmers are all important, they obviously differ in terms of the relative importance both across farm groups and resource regions. While factors such as food and fodder self-sufficiency, farm size, and investment constraints are important in influencing the area allocation pattern among smaller farms, larger farmers with an ability to circumvent resources constraints usually go more by economic considerations based on relative crop prices than by other non-economic considerations. Similarly, economic factors play a relatively stronger role in influencing the crop pattern in areas with a better irrigation and infrastructure potential. In such areas, commercialization and market networks co-evolve to make the farmers more dynamic and highly responsive to economic impulses.

What is most notable is the change in the relative importance of these factors over time. From a very generalized perspective, Indian agriculture is increasingly getting influenced more and more by economic factors. This need not be surprising because irrigation expansion, infrastructure development, penetration of rural markets, development and spread of short duration and drought resistant crop technologies have all contributed to minimizing the role of non-economic factors in crop choice of even small farmers. What is more, the reform initiatives undertaken in the context of the ongoing agricultural liberalization and globalization policies are also going to further strengthen the role of price related economic incentives in determining crop composition both at the micro and macro levels. Obviously, such a changing economic environment will also ensure that government price and trade policies will become still more powerful instruments for directing area allocation decisions of farmers, aligning thereby the crop pattern changes in line with the changing demand-supply conditions. In a condition where agricultural growth results more from productivity improvement than from area expansion, the increasing role that price related economic incentives play in crop choice can also pave the way for the next stage of agricultural evolution where growth originates more and more from value-added production.

### **Crop Pattern Changes: Analysis at the all India Level**

The analysis of crop pattern changes to be attempted at the macro level (national) will focus on three main aspects. These aspects are: a) the nature and direction of area shifts across crops and crop groups observed through time, b) the implications of these shifts for crop diversification and balance in the inter-crop allocation of existing and additional areas brought under cultivation, and c) the output and productivity impact of crop pattern changes.

### **Temporal Changes in the Area Share of Crops**

The temporal behaviour of crop pattern changes at the all India level can be seen from Table 2 and Table 3 that show, respectively, the area share of main crop groups and major crops for the four periods. Though obvious, it needs to be stated that the changing area share of crops is due as much to shift in area under other competing or alternative crops as to the relative area allocation of fresh areas brought under cultivation. In any case, the changing area share of crops does capture the ongoing changes in the comparative advantage calculus of farmers. The changes in the comparative advantage of crops reflect, in reality, the ongoing changes in relative prices of inputs and outputs, production conditions (including irrigation expansion), development and spread of new crop and farm technologies, extension and input support policies and trade policies and domestic regulations. As such, the changing area share of crop pattern, though looking deceptively simple, becomes a useful tool for understanding the direction in which crop pattern changes are influenced by the variations in the comparative advantage of crops and crop groups

## Crop Diversification in the Indian Perspective

Although cereals gained a marginal increase in area share in the first decade of the Green Revolution, their area and share declined gradually thereafter. Between 1966/67 and 1996/97, 3.35 percent of the gross cultivated area (GCA) - representing approximately about 5.7 million hectares (m/ha) - has shifted from cereal crops to non-cereal crops. Since the area share of pulses taken as a group also declined by 1.57 percent during the same period, the area share of foodgrains as a group declined by 4.92 percent during 1966-97. In area terms, the shift from foodgrains to non-foodgrains involves an approximate area of about 8.36 m/ha. While cereals and pulses have lost area, the major gainers of this area shift are the non-foodgrain crops especially oilseeds. The area share of oilseeds as a group that has gone up by 4.08 percent accounts for about 83 percent of the 8.36 m/ha involved in the area shift between 1966/67 and 1996/97. As we consider the share of individual crops within cereals, although the share of cereals as a group has declined, the area share of rice has increased continuously over all the four periods. Wheat, although having a declining area share until 1986/87, also gained in its share when the entire period is considered. Thus, the area loss of cereals can be attributed entirely to the declining area share of coarse cereals, especially sorghum, pearl millet, barely and small millets. It can be noted that even within coarse cereals, the area share of maize shows a marginal improvement over the years. Within oilseeds, the crops showing steady improvement in their area share are: rapeseed and mustard, soybean and sunflower. Among these three oilseeds gaining in area share, rapeseed and mustard are substantially grown as intercrops with wheat. On the other hand, the area shares of other oilseeds including groundnut (that has a dominant area share within oilseeds) but excluding coconut, which is more a plantation crop than field crop, have either fluctuated or declined. The area share of groundnut, though improved during the last period, has declined as compared to its share in the pre-Green Revolution period. But, the declining area share of crops - especially those with only a marginal change in their area share - need not necessarily imply a decline in the actual area under these crops. Since the Gross Cropped Area (GCA) is constantly increasing over time, partly through an expansion of net sown areas as in the initial stages of the Green Revolution and partly through increasing intensity of cropping mainly by irrigation expansion, the declining area share can coincide with an increase in absolute increase in the area under crops. This can be seen from Tables 4 and 5 showing actual area under various crops and their groups. Although the increase in the area share of other commercial crops is not as dramatic as that of oilseeds, it is still notable because of its implications for the direction of Indian agriculture. But, among these other commercial crops that cover fibres, spices, fruits and vegetables, and other field crops such as tobacco and sugar cane and plantation crops, only spices, fruits and vegetables show a steady improvement in their area shares, whereas others show mostly a declining trend. This is particularly true for fibres and other field crops that have over four fifths of the total area under the broad group of other commercial crops. However, sugar cane, included in the category of other field crops, shows an increase in its area share. This is also true for cotton included in the fibre category. While all spice crops show a gradual increase in their area share, only three of the six crops

included in the fruits and vegetables category show a gain in their area share over the years. These crops are banana, potato and onion.

## Conclusion

The area shift during this period comes mainly from barley and pulses other than pigeon pea. Since most of those crops losing their area share are usually grown under rainfed conditions where oilseeds can also be grown, the area shift can be said to involve mostly rainfed areas, although comparative advantage and crop rotation considerations often favour oilseeds even in groundwater irrigated areas. Thirdly, as can be seen from Table 3, there is also a significant area shift within oilseed crops. For instance, while the area shares of rapeseed and mustard, sunflower and soybean are increasing steadily, those of sesamum, linseed and nigerseed are declining gradually. Thus, the area shift has favoured only a sub-sector within the oilseed sector partly because of constant changes in the comparative advantage of different oilseeds and partly because of the impact of changing consumers' preferences on the relative demand of oilseeds. A strategy of crucial importance is growth enhancing non-farm activities. This calls for investment in rural infrastructure and skill upgradation and it also implies a careful examination and adjustment of macro-policies, which influence the relative profitability of different activities and in turn determine the nature and pace of diversification. In order to ensure social equity, policies on structural adjustment and reforms must pay special attention to the band of marginal and small farmers and agricultural labourers. The direct benefits from diversification should reach these sections of the farmers.

## References

1. "What is a currency crisis, currency crisis definition and summary | TheGlobalEconomy.com". TheGlobalEconomy.com. Archived from the original on 2 October 2015. Retrieved 20 July 2015.
2. Markus Brunnermeier (2008), 'Bubbles', in The New Palgrave Dictionary of Economics, 2nd ed.
3. Peter Garber (2001), Famous First Bubbles: The Fundamentals of Early Manias. MIT Press, ISBN 0-262-57153-6.
4. "Transcript". Bill Moyers Journal. Episode 06292007. 29 June 2007. PBS.
5. Justin Lahart (24 December 2007). "Egg Cracks Differ In Housing, Finance Shells". Wall Street Journal. WSJ.com. Archived from the original on 13 August 2015. Retrieved 13 July 2008. It's now conventional wisdom that a housing bubble has burst. In fact, there were two bubbles, a housing bubble and a financing bubble. Each fueled the other, but they didn't follow the same course.

6. Price, Steve (Summer 2009). "Real Estate and the Financial Crisis: How Turmoil in the Capital Markets is Restructuring Real Estate Finance". *Real Estate Issues*. 34 (2): 43–44. ProQuest 214013947.
7. Milton Friedman and Anna Schwartz (1971), *A Monetary History of the United States, 1867–1960*. Princeton University Press, ISBN 0-691-00354-8.
8. '1929 and all that', *The Economist*, 2 October 2008.
9. "Global Multidimensional Poverty Index 2015line" (PDF). UNDP. Retrieved 30 September 2015.

