Chapter 8

Summary and Conclusion

In Indian agriculture, which continues to provide livelihood for more than half of the population, price policy plays an important role in achieving growth and equity. The green revolution of the 1960s and 1970s which helped in overcoming a "ship-to-mouth" existence and achieving self-sufficiency in production was built on a platform of state support; there were price supports, subsidy supports, credit supports and marketing supports. The interventionist role of the state in the 1970s and 1980s led to the creation of a network of institutional support structures in rural areas. But the initiation of economic reforms in India in 1991 brought about major changes in the macroeconomic policy framework of the planned economy that existed in India during 1950-51 to 1990-91. Although no direct reference was made to agriculture, it was argued that the new macroeconomic policy framework would benefit tradable agriculture by ending discrimination against it and by turning the terms of trade in its favour. The package of reforms in agriculture was based on the diagnosis that while the sector remained net disprotected the subsidies arising out of the inappropriate pricing of the inputs and outputs led to the inefficient use of resources and eroded the capacity of the government to finance public investment in the agricultural sector. For correcting these so-called distortions, the reform package revolved around setting prices right and included the withdrawal of subsidies on inputs, targeting the public distribution system to only the poor, abolition of the food management system and its attendant costs and the liberalization of the trade in agricultural commodities. As a result, the post-reform period witnessed a dilution of the supportive mechanisms that were built up, in stages, in the post-independence period to protect the farmers from the uncertainties of the market. However, contrary to expectations and anticipations, the agricultural sector in India neither experienced any significant growth subsequent to the initiation of economic reforms in 1991 nor did it derive the expected benefits from trade liberalization. As a matter of fact, when compared with the decade just before liberalization, agricultural growth in India recorded a visible deceleration during the post-liberalization period. This happened at a time when the rest of the economy was growing at an unprecedented rate. In this context, this thesis is an
attempt to examine the observed slowdown in Indian agricultural growth with a view
to assessing the effect of the market-based reform project.

The objectives of the study were:

I. To analyse the agricultural growth performance and document the movement
of the factors that have been recognised as being the determinants of
agricultural growth with a view to identifying the proximate causes of the
slowdown.

II. To document and analyse the impact of the past and the current agriculture
price policy on farm profitability with a view to identifying the causes of the
slowdown in agricultural production.

III. To analyse the potential consequences of the behaviour of international prices
in terms of their level and variability on domestic agriculture with a view to
their possible role in determining the trajectory of agricultural growth since

IV. To analyse whether the observed variability in domestic prices was shaped by
the incomplete transmission of the price signals to domestic prices due to
government intervention in agriculture or whether government intervention
helped lower the variability in domestic prices.

The major findings of the analysis are summarized and some inferences having
bearing on agriculture policy are discussed below.

The analysis of the growth of agricultural output over the last twenty five years
highlights the fact that the decade of the 1980s witnessed an unprecedented annual
growth rate of crop output with a significant change in the cropping pattern away
from coarse cereals towards more valuable oilseeds crops. An interesting feature of
the 1980s was that agricultural growth permeated to all agricultural commodity
groups in India. The spread of new agricultural technology to other regions and crops
resulted in a notable increase in the levels and growth rates of yields and output
during 1980s. But the post-reform period was characterized by a serious retrogression
in both the levels and growth rates of yield and output in almost all crops/crop groups
and a slowdown in diversification towards oilseeds. The disquieting aspect of the
post-reform growth process was that the agricultural and non-agricultural sectors were
on a disparate growth path. There are different reasons for slowdown of growth of yield and output. The analysis of factors related to agricultural growth during the period 1980-81 to 2005-06 shows that both price and non-price factors played a positive role in determining agricultural output. However, in comparison to price factors, non-price factors played a dominant role in influencing output growth at the all India level. The analysis shows that a slowdown/stagnation or even decline in growth of fertilizer use, irrigation, and net sown area and a decline in the capital stock in agriculture have had an adverse impact on agricultural growth during post-reform period. The predicted positive impact of trade liberalization on agriculture's terms of trade could not materialize. And also no unidirectional link between agricultural growth and relative prices was observed, indicating that there was no significant relationship between these two. The evidence of price shifts is too marginal to account for the observed slowing of growth during post-reform period.

Historically, agricultural price policy evolved to take care of any undue rise in prices, while maintaining a balance between the interests of consumers and producers. Nevertheless, the limits of price policy in achieving these goals were recognized by the government and as a result other non-price interventions were used primarily for the purpose. While a large public distribution system network ensured access to cheap food to the needy with appropriate levels of subsidy from time to time, a slew of policy initiatives were put in place to make farming profitable enough to induce investment in technology for improving productivity per unit of land. The policy aimed at encouraging higher production and the resultant food produce was to be made available at lower prices. The higher emphasis and reliance on price policy in the nineties and relative exclusion of non-price interventions in the form of public investment shifted the earlier policy regime of 'low-input and low-output' to a 'high-input and high-output' price policy regime. Public investments on irrigation, research, extension and other related infrastructure went down from 3.4% of agricultural GDP in the early eighties to 1.9% during 2001-03. On the other hand, private investment, while increasing initially, stopped flowing by the late nineties in due to the operation of complementarity between public and private investments. Technology development, dissemination and adoption received a major setback due to this. As a part of the reform strategy the government not only slashed the subsidies on major inputs in order to discourage environmentally unsustainable practices but also
absolved itself of the responsibility to produce or procure and distribute these inputs at farm gates. As a result of this policy shift, growth rates in yields have gone down and eventually costs of production started rising. The cost of production in nominal terms in the case of both rice and wheat, during the one and a half decades of the reform period, increased three times faster than in the 1980s. Increasing costs of production along with a desire to link domestic prices with international prices with the aim of integrating the domestic economy with the global economy necessitated higher support prices. The trend analysis of MSPs shows this phenomenon clearly. There has been a systematic attempt to cover cost of production and in case of wheat and paddy procurement prices have remained well above the cost of production. Agricultural price policy on an average has been largely successful in playing a major role in regard to providing reasonable levels of margins over total costs to the farmers of both rice and wheat. Nonetheless, the margin over total cost and variable cost has declined since the late-1990s in the case of both wheat and rice. Not only the level of the margin but also the net income in absolute terms has declined since the late-1990s in the case of both wheat and rice. The net income from the cultivation of wheat witnessed a sharp decline from the level of Rs 6161 per hectare to Rs 3215 per hectare during the period between 1999-2000 and 2004-05 whereas, in case of rice it started declining from the level of Rs 3513 per hectare in 1998-99 and reached an insignificant level in 2002-03 leading to distress for cultivators. The decline in profitability has discouraged the farmers from increasing spending on yield augmenting technology which resulted in poor yield growth rates and in turn to decline in production growth rates.

The economic reform initiated in the year 1991 gave a big boost to agricultural export. The main factor for this impressive export growth was that international prices of several agricultural commodities were well above the domestic prices and liberalization provided the opportunity to exploit this advantage. The achievements in agricultural exports led to the belief among academicians and policy makers that Indian agriculture was highly export competitive and generated a favourable environment for freeing agricultural trade. This happened at the time when URRAA was being finalized. It was anticipated that implementation of the new agreement would benefit Indian agriculture. Consequently, the decade of the 1990s witnessed increased integration of the domestic agricultural economy with the world economy.
by switching to a more liberal and open trade regime. And the liberalization of the agricultural trade was put forward as an important step towards imparting efficiency to Indian agriculture. However, this has bought new challenges for Indian agriculture as well, where the behaviour of international prices has assumed greater significance for domestic food prices and production than before. For example, a decline in international prices implies relatively cheaper imports and if the domestic prices are higher than the imported commodity’s prices, it would result in more imports into the domestic market. An increase in imports enhances supplies, and for agricultural commodities– the prices of which are determined by supply and demand– may be expected to lower the price relative to the counterfactual equilibrium and can damage domestic agriculture production by making it unprofitable. The analysis of the behaviour of international market prices of agricultural commodities clearly shows that country like India cannot afford to excessively rely on the international market. Otherwise it will make domestic agriculture vulnerable to the developments in and policies of the major exporting countries. Though, the world demand and supply situation determines the movements in world prices but, the output and stockholding policies of major exporting countries still holds large implications for world price movement and stability. To elaborate, in the case of rice, just after the Asian crisis, the international price of rice started declining. Low demand from some big importers of rice from Asia and Latin America was one of the reasons behind this decline. On the supply side, India’s and China’s entry as exporters in the international rice market and domestic policies undertaken by developed countries increased the supply-demand gap. The consequent decline in international prices of rice was accentuated by heavy subsidization of rice farmers in USA. The increased direct support to US rice producers by way of counter-cyclical payments to absorb the shock of low prices and maintain their high trading volumes resulted in oversupply of rice in the international market and exacerbated the decline in international rice prices.

The increased alignment of domestic prices with world prices also has a potential consequence that can damage agricultural growth independent of its influence on the level of domestic prices, as it can increase the volatility of domestic prices. However, the analysis of price volatility points to lower inter-year variability in domestic market prices compared to international market prices. On the other hand, the higher intra-year variability in domestic markets (except sugar) than in the international markets
highlights the fact that Indian market prices are more prone to within-the-year fluctuations. The decadal analysis of intra-year variability shows that domestic market prices have witnessed a continuous decline in volatility. The only exception to this was groundnut seed and oil where volatility has increased slightly during the most recent sub-period. In contrast to domestic markets, international market prices showed cyclical movement in intra-year volatility. The decade of the 1990s turned out to be a relatively stable period compared to the 1980s in the case of international market prices for most of the commodities except for rice and wheat. After the 1990s, international market prices again witnessed an increase in volatility with the exception of rice and wheat where volatility has declined relative to the decade of the 1990s. The results from the GARCH model confirm the results obtained by using the standard deviation method and shows similar patterns of intra-year variability across commodities as observed using the standard deviation method. Therefore, the analysis does not provide much ground for granting price volatility a significant role in determining the trajectory of agricultural growth by making it more risky because of continuous decline in within-the-year fluctuations in domestic market prices.

Nonetheless, in sharp contrast to the initial years of liberalization which were highly favourable for growth of agricultural exports, the post-WTO years turned out to be highly adverse for India’s agricultural exports. However, there were considerable variations in export performance of various commodities. For example, with the liberalization of export of non-basmati rice, its export picked up during the post-WTO period with a lot of stock being released for export. The commodities which explain the fall in agricultural exports during the post-WTO period include oilmeal, cotton, sugar, tobacco and pulses. Poor export performance during the period was the upshot of a sharp fall in international prices. In the case of India’s traditional export items, their export growth slowed down during the post-WTO period. The situation started improving since 2001 with recovery in world prices; as a result, agricultural exports started growing. Among imports, edible oils have shown very high growth in the post-WTO period followed by pulses. Thus agricultural imports are concentrated in these two commodities, where domestic production has not kept pace with the demand.

Our analysis of trade competitiveness of major agricultural commodities also highlights the fact that, the competitiveness of commodities has undergone significant
changes during last 25 years. This shows that trade competitiveness is a dynamic phenomenon which depends upon changes in international and domestic prices. Under the exportable hypothesis, India has been export competitive in rice since 1981, except during the period when international prices have experienced unusual declines (1985-87 and 2000-2004). On the other hand, there does not seem to be much advantage in exporting wheat, as India was export competitive only for short spells (1990 and 1996-97), when world prices were at their peak. In the case of sugar, India was probably export competitive during the period 1989 to 1997 (as the ratio of domestic to world price was close to one). After 1997, given the significant levels of distortions in the international market due to domestic and export subsidization by the EC and high protection and support in the US market, Indian sugar exports became uncompetitive in the international market. However, commodities belonging to the group of oilseeds, namely groundnut and rapeseed/mustard, appear to be efficient import substitutes since the early-1990s, whereas, soybean seed has been found to be import substitutable throughout the period under study (except for a short spell during 1987 and 1988). Compared to oilseeds, edible oils producers were uncompetitive as producers of import substitutes. In the case of cereals, under the importable hypothesis, wheat has been largely competitive, with ratios of domestic to international prices below unity throughout the period under study.

Moreover, the divergence between the domestic and world prices which ideally captures the space for policy interventions shows that trade policy instruments - import tariffs/export subsidies - during the post-WTO period, especially applied tariff rates, were adequate to bridge the price wedge observed between domestic and world reference prices. On the other hand, export subsidy rates were enough to maintain the competitiveness of Indian producers’ in international markets at the time of unusual decline in world prices, for example of rice and wheat.

Therefore, what emerges from our analysis is that, the government intervention has been quite effective in insulating domestic producers from low world prices as well as from the effect of instability in international prices during the post-reform period. As our study clearly brings out, though during the post-reform period a trade policy regime which is more open was being put in place, the approach with respect to agriculture has remained gradual and cautious. While trade restrictions on agricultural
products were left mostly untouched in the 1991 reforms, subsequent trade policy changes gradually lifted most of the restrictions on both exports and imports of agricultural products. With the removal of restrictions on imports and exports, trade policy instruments were adjusted from time to time which helped in ensuring sufficient domestic supply of key products and kept the volatility in domestic prices at relatively low levels compared to earlier decades. An example is the exemption (zero duty) granted for imports of wheat in 2006 to replenish local grain stocks mainly for the public distribution system; the standard tariff rate is currently 50%. Import licences were also issued to support this policy; for example, in 2006, imports of wheat, normally restricted to state trading, were also permitted by private importers. Similarly, in the case of exports, as the vast majority of agricultural exports are unrestricted, government made notifications from time to time to restrict exports or lift export restrictions in order to maintain domestic supplies and stability in domestic prices. For example, in 2006, export of sugar was prohibited, to maintain domestic supplies in order to keep the price at a “reasonable level”. Whereas in the case of wheat, following a sharp fall in government’s annual food grain procurement because of good open market prices and lower production, India banned exports of wheat and wheat products in April 2007.

The analysis decomposing changes in domestic prices of major agricultural commodities also substantiates our argument regarding the role played by government in insulating the domestic producers. The decomposition of changes in domestic prices of major agricultural commodities into the effects of trade prices, the exchange rate and, agricultural trade policies, highlights the fact that, in a majority of the cases poor transmission of changes in trade prices and exchange rate on domestic prices has precluded much of the potential price changes. The value of price transmission elasticity between domestic price and the landed price varied between 30 to 50 percent in majority of the cases over the periods in question. The trade policy response to low world price either by raising import tariffs or by providing export subsidies has canceled out much of the downward effect on domestic prices from falling world prices. The incomplete transmission of changes in trade prices and exchange rates to domestic prices results from both government policies as well as underdeveloped market infrastructure. Domestic price support policies, such as stock policy and price floors, along with frequent use of non-tariff barriers like export
restrictions, import licensing, state trading corporation and so on, to ensure sufficient
domestic supply and maintain stability in domestic prices has weakened the link
between trade prices and exchange rate, on the one hand, and the domestic price, on
the other.

To conclude, higher emphasis has to be placed on non-price interventions through
public investments to supplement price policy measures. This can help in increasing
yields, reducing the exclusive reliance on prices for farm profitability. The behaviour
of international prices in terms of level and fluctuations shows that output and
stockholding policies of major exporters have a crucial bearing on the world prices.
Therefore, a country like India cannot afford to excessively rely on the international
market. This implies that unregulated and freer trade would impart instability to
domestic prices and there is strong case to regulate trade to maintain domestic price
stability.