CONCLUSION AND SUGGESTIONS
Conclusion

This study examines the spatio-temporal patterns of the marketed surplus and the price structure of six important crops at three levels; at the village level, in the selected periodic markets as well as in the regulated markets of Araria district (Bihar). It also estimates the marketing costs and margins of these crops grown in this district.

It is realized through this study that streamlined movement of the farmers’ surplus to the consumers through efficient marketing system would raise the income level of the farmers and promote the economic development of the study area in particular and Bihar in general. The farmers would be able to invest this profit in term of comparative advantage on modern agricultural inputs. It would help to attain enhanced production and productivity both. This, in turn, would contribute to increase the quantity of marketed surplus of the agricultural commodities their and inter-regional trade, which would facilitate the demand for improved market facilities.

However, before formulating any policy to attain these goals, it seems necessary to find out the marketing conditions under which surpluses are disposed off in markets, spatially and temporally. And it is necessary also to identify and quantify the marketing costs and margins that determine efficiency of the agricultural marketing system, so that the improvement can be directed towards the factors which are crucial in determining market efficiency. This research work has its genesis in the observation of the general neglect of these problems regarding marketable/marketed surplus of agricultural commodities and inefficient functioning of agricultural marketing in North Bihar. An understanding of all these factors in a backward and agriculturally sensitive region would provide substantial empirical evidences to the market planners.
and policy makers to formulate relevant policies which would be of immense help in increasing the efficiency of agricultural marketing.

The agricultural marketing system begins with the farmer and his production activities, while at the other end of the system is the consumer. The process starts with the movement of farm products to the market and its contact with business firms or traders. The actual buying and selling activities are done under certain norms and also through some organizational system in Araria district.

The three tier analysis of agricultural marketing in Araria district, in this study, provides some insight about their relative importance and role in the development and efficiency of agro-marketing. The proportion of marketed surplus of these commodities at village level, in periodic markets, and in regulated markets indicates towards the level of development of agro-marketing system in Araria district. The study highlights that the modernization, efficiency and vigour of agro-marketing is positively dependent upon the uniformity of marketing practices, uniform regulatory provisions, accessibility to bigger market centers, reduction of market margins and of course on post-harvest storage facilities.

Thus as a generalized statement, it can be argued that structural changes in farming practice and marketing of agro-commodities would lead to effective integration of market centers. These market centers under uniform regulatory measures, being accessible to both small and big farmers, would provide better prospect for agricultural marketing. It would enhance overall efficiency of the system as well.

The findings of this study in coming paragraphs would reveal that according to general parameters of efficient agro-marketing, Araria district still has a very primitive marketing system. The greater transaction of agro-commodity at village level and in rural markets
amply proves the point that Araria has to go a long way before any positive change can take place for the general lot of a great majority of marginal and small farmers. As a large number of these farmers is at disadvantageous position, they have no say in the bargain. This inherent unequal power balance between the producers and the intermediaries in the existing system is the real bane of agro-marketing system in Araria which is reflected in, and furthered by, the overall inefficiency of this system.

The agricultural products are marketed through two types of trading system; private trading system (informal agencies) and public trading system (formal agencies). In private trading, the commodities are primarily operated by private traders, like wholesale traders, village traders, itinerant traders, commission agents, etc who purchase the agricultural surplus from the producers at free rate on the basis of price agreement between them and producer sellers.

Under the informal trading it is found that the producer seller sells his produce at the village site to one and several types of intermediaries or brings it directly to wholesale market. It is found from the survey that paddy has been purchased in the largest proportion by mills constituting 59.55 per cent, followed by periodic markets with 8.79 per cent of total transaction performed through different informal marketing agencies. Similarly, rice has its share of 35.96 per cent, wheat 35.96 per cent, maize 25.73 per cent, pulses 51.29 per cent, potato and onion 50.18 per cent respectively of the total transaction in the village markets. This finding shows the overwhelming importance of informal trading system in the marketing of agricultural commodities in Araria district.

On the other hand under formal trading system, public or government agricultural trading system has come into existence with a
view to ensure fair price for producers’ surplus as an incentive to increase the production, to supply essential commodities to the consumers at reasonable price, to minimize seasonal fluctuations and to maintain the buffer stock. The main public trading agencies are Food Corporation of India (FCI) and State Food Corporation (SFC). Under formal agencies, regulated markets are one of the most important agencies of agricultural marketing system. They have accounted for transaction of 24.45 per cent of marketed surplus of paddy, 63.4 per cent of marketed surplus of rice, 32.26 per cent of wheat, 74.27 per cent of maize, 48.71 per cent of pulses. Potato and onion have accounted 59.29 per cent and 49.82 per cent respectively. Other government agencies like FCI and SFC purchase only wheat and paddy to minimize seasonal fluctuation of their prices and to undertake procurement for maintenance of the buffer stock.

The village level survey of transaction of the agricultural commodities shows that paddy has recorded highest share of marketed surplus in regulated markets. While in the case of vegetables especially onion, they have been transacted in largest proportion at village market among different market agencies. Maximum transaction at village level is undertaken especially by the small and marginal farmers. They have very small size of marketable surplus which discourages them to sell their surplus in distant and specialized agricultural markets, to avoid unnecessarily transport and time costs. The purchase of agricultural produces by consumers directly from growers/farmers house is another important agency of agricultural marketing channel in which the margin of commission agents to consumers’ price is reduced. So both farmers and consumers get benefited. Besides, time of the consumers (usually agricultural and land less laborers) is saved in which they can earn more wages.
Study area experiences various methods of transaction of agro-commodities at market and farm levels. Undercover, open auction, quotation on samples, private negotiation and close tender are important methods of transaction. The undercover and by quotation on sample methods are practiced only in wholesale periodic markets, whereas, open auction is generally practiced in government control regulated markets. Moreover, in this study various market channels of agro-commodities are also being identified. Generally, marketing of agricultural commodities undergo change of ownership through time and space. The intermediaries are involved in the passing of commodities from producers to ultimate consumers which form marketing channels. Paddy/rice and wheat are having rather complex channels than maize, pulses, potato and onion. It is due to spatio-temporal variations in their demand and supply.

Spatial pattern of marketed surplus of selected crops in the sampled markets show that rice accounts for highest share of 46.63 per cent of total marketed surplus of various agricultural products. It is followed by wheat with 26.45 per cent, potato 10.38 per cent, onion 9.91 per cent, maize and pulses 3.32 per cent and 3.33 per cent respectively. The variation in marketed surplus of different crops in the district is due to variation in demand and supply of these commodities in the region.

Similarly, different types of marketing agencies dealing with agricultural commodities also show variation in their marketed surplus. Regulated and urban periodic markets have highest proportion of marketed surplus in the study area. Analysis shows that the market centers which are well connected with roads and railways have a higher proportion of marketed surplus. Moreover, the market centers which are located in the eastern and northern parts of Araria district have higher
marketed surplus of the agricultural commodities than that of the market centers located in the western side of the district. It is because of well connectivity of eastern and northern parts as well as higher agricultural productivity in these regions. On the other hand lower marketed surplus in the western part of the district is due to lower productivity of crops caused by flood from Kosi river as well as lesser spatial connectivity among the markets. This supports the hypothesis that better spatial integration of market centers at different levels due to efficient transportation and other infrastructural facilities reduces unnecessary spatial unevenness of marketed surplus.

Seasonal arrival pattern is discussed on the basis of three main periods (1) post-harvest period (2) intermediate period, and (3) lean period. The study of the seasonal pattern of marketing of selected crops indicates that the arrivals do not follow any definite pattern during an agricultural year. It is due to the fact that most of commodities have a different growing time during an agricultural year. Study reveals that average arrival of marketed surplus for the district as a whole during post-harvest period is 51.62 per cent and during intermediate period it is 29.40 per cent. Whereas during lean period it constitutes 18.98 per cent. The arrivals of marketed surplus of these commodities vary spatially and temporally, crop-wise and market-wise. Similarly study finds that arrivals of marketed surplus of potato and onion are highest i.e. 57.42 per cent and 55.47 per cent respectively, during post-harvest period. While during lean period the shares of onion and potato are 14.11 per cent and 14.51 per cent of their overall arrivals respectively.

Largest proportion of the arrivals of the marketed surplus of potato and onion during post-harvest period is due to the fact that they are cash crop and of perishable nature as well, hence the farmers immediately wish to sell them. Moreover, highest arrival of marketed
surplus of all agro-commodities during post-harvest period indicates that small and marginal farmers sell a large quantity of their surplus, particularly as distress sale, immediately after the crop harvest. The result further shows that seasonality of arrivals is found more pronounced in cash crops than in non-cash crops. It means that producer sellers lack storing facilities and consequently sell their produces in the market immediately after harvest. This supports the hypothesis that there is a wide fluctuation in seasonal arrival of marketed surplus of different agricultural commodities.

The volume of marketed surplus of agricultural commodities in the sampled markets has improved well during the period 1993-2003 at an average annual rate of 3.23 per cent in all the selected markets. General trend of growth of the marketed surplus has been the result of the agricultural development in the study area, through the horizontal and vertical growth in agriculture in terms of area and production respectively, during post-green revolution period.

The growth of marketed surplus is not uniform in every market but varies spatially among the periodic and regulated markets. Maximum growth has been recorded in both the selected regulated markets i.e. 7.66 per cent in Forbesganj and 3.01 per cent in Araria, while in selected periodic markets, marketed surplus varies from maximum 1.83 per cent in Araria Court to minimum 0.79 per cent in Lalokhur. Wide difference in the growth of marketed surplus in regulated and periodic markets is attributed to the fact that market regulation restricts malpractice in the transaction of agricultural commodities and thus becoming an incentive for farmers to sell their produce there. That is why marketed surplus has increased sharply in regulated markets than the periodic markets. It supports the hypothesis that government intervention in terms of regulation measure leads to
greater market efficiency and consequent to it there is rapid increase in the marketed surplus in the regulated markets in comparison to periodic market centers.

A Spatial analysis of the marketed surplus of the agricultural commodities at the level of operational land holding indicates that the proportion of sales of all agricultural commodities i.e. rice, wheat, maize, pulses, potato and onion at village level itself is very high indicating thereby the preference of the farmers to sell their produce at their door. The proportion of the total sale at village level for all selected crops as a whole is 39.45 per cent and it varies crop-wise. The larger percentage of marketed surplus of different crops at village level is on account of the poor transportation and communication facilities to carry produce to far-off big markets. However, farmers with largest size of holding (above 8 acres) sell 49.63 per cent of their total surplus in the regulated and urban market centers. While farmers with lowest size of holding (up to 2 acres) have almost negligible presence in these market centers.

A further analysis of the marketing pattern shows that proportion of sale in the specialized market centers rises as the size of landholding increases. It is on account of the fact that the big farmers have large marketable surplus and own means of transportation and therefore they do not find any difficulty in selling their produce in the main market centers. The poor farmers lack transportation facilities and also they have small quantity of surplus to sell in the main market centers. It supports the hypothesis that big farmers are more dominant in selling their produce in the regulated and urban market centers than the small one.

The over all proportion of marketed surplus of all selected commodities shows that regulated markets and periodic markets have
their increased share. But a closer look of the situation reveals that transaction in regulated markets is mostly done by big farmers. Small farmers are found almost negligible in these markets. Thus the advantage of regulated markets disproportionately goes to big farmers skewing the socio-economic equilibrium of the village as well as tilting power leverage in the agricultural marketing system in favour of big farmers and intermediaries.

The variables selected for analyzing the price behaviour of six important agricultural crops namely rice, wheat, maize, pulses, potato and onion, are the wholesale purchase price and wholesale sale price in three different agricultural seasons. The wholesale purchase price refers to that which the wholesalers/commission agents pay to the producer sellers and other selling agencies; whereas the wholesale sale price refers to that which the retailers and other traders pay to the wholesalers/commission agents. From the analysis of the data, it is found that there is wide difference in the wholesale purchase and wholesale sale prices of agricultural commodities between post-harvest and lean periods. It is due to seasonal character of the production and arrival patterns of these agricultural commodities, while their consumption is more or less uniform over different months of the year. It leads to seasonal fluctuations in their prices.

Moreover, crop-wise study shows wide fluctuations in the prices of these commodities. As far as rice is concerned maximum seasonal variations are up to 76.32 and 63.71 per cent in wholesale purchase and wholesale sale prices between post-harvest period and lean period. For wheat, maize and pulses the maximum seasonal variations in wholesale purchase price between post-harvest and lean period are 37.89 per cent, 27.05 per cent and 20.21 per cent respectively. On the other hand, the maximum seasonal variation in wholesale sale price between these two
periods for wheat, maize and pulses are 31.36 per cent, 33.25 per cent, 22.37 per cent respectively. Maximum seasonal variations in wholesale purchase and wholesale sale prices between post-harvest and lean period for potato and onion have been recorded 161 per cent, 126.76 per cent and 152.77 per cent, 112.26 per cent respectively. Potato and onion have recorded maximum seasonal variations in their prices because of their perishable nature and being commercial crops.

The seasonal behaviour of the wholesale purchase price over the space constitutes the most important indicator of the efficiency of marketing system. Spatially, the variations in price do not seem much, however, it varies market-wise. Spatial patterns of price structure of different crops show that regulated and urban periodic markets are having better price structure of the selected agricultural commodities than the smaller and inaccessible periodic market centers. Location and size of market centers play a decisive role in determining the price structure of different agricultural commodities. The result shows that there are not much spatial variations in minimum and maximum prices of the commodities both in regulated and periodic markets. It shows that these markets are very much spatially integrated. Whereas, the seasonal variation in the prices is more pronounced in the markets of Araria district. Besides, another marked feature of the study area is that the seasonal fluctuation in prices of agro-commodities is less pronounced in foodgrains and pulses compare to the cash crops i.e. potato and onion, it is more pronounced. This supports the hypothesis that seasonal price fluctuation is more pronounced in an agriculturally backward area.

The Araria district is a deficit region of agricultural products, especially, of food crops. It is a consuming market where agricultural commodities are brought and sold by the traders belonging to places outside the district, especially from the terminal markets. Further, from
the point of view of the supply side, the crops of inferior quality are marketed here under a situation of compulsions, which are dumped in the market immediately after harvest. This leads to wide fluctuation in the prices. As a result the seasonal variations of wholesale sale price and wholesale purchase price are high. However, a market-wise comparison of price structure of different agro-commodities shows that traders' manipulative grip over the producer-sellers and itinerant traders is stronger in interior and smaller markets than their counterparts in regulated markets.

The costs of marketing are expenses incurred in bringing goods and services from producers to consumers. It is found that the costs of marketing of agricultural commodities are high in the study area. The factors responsible for high costs of marketing are too many and these make the agricultural marketing system highly exploitative in character and imperfect in nature. Analysis of the types and variations of costs indicates that the various markets charges; particularly among periodic markets are not uniform and they are mostly charged in an arbitrary manner. These charges not only show large variation but the mode of their payment also differs, which is payable by the sellers in some instances and the buyers in other. The main drawback of these charges is that there is no uniformity or generally recognized rules as to which charges should be payable by sellers and which by buyers. However, in recent years, the Government of Bihar through the Bihar Agriculture Produce Markets Act, 1960 and its subsequent amendments therein, has made certain provisions under which each market charge has been clearly defined and fixed. But it is practiced only in government controlled regulated markets.

In the present study, the price spread has been estimated by comparing the prices at different levels of marketing with the help of
method of concurrent margin. While studying the various components of price spread attention has been focussed on producers’ share in the consumers’ price. It is hypothesized that larger the price spread the greater is the inefficiency in the marketing system, and vice-versa. The study indicates that higher marketing costs and price spread is largely on account of high handling and transportation costs, greater loading and unloading charges and high commission charges along with some unspecified charges by intermediaries. A further comparative analysis of price spread of regulated and periodic market shows that the producers’ share in consumers’ price is higher in the regulated markets. It is because of regulatory measures introduced in these markets, and to this extent this may be said as a positive gain of the establishment of the market yard. The study of the net price received by the producer seller through different marketing channels reveals the fact that the direct sale to consumer fetches the highest net price to producer seller. The sale performed through the katcha arhatiya is the next profitable channel for the producer seller. The sale performed through the retailer is the third best channel and much more remunerative as compared to sale taken place through the wholesaler, the village merchant and itinerant dealer. The most important factors which affect the price spread are (a) multiplicity of intermediaries and their profit margin, (b) transport and storage costs (c) commission and brokerage charges, (d) handling costs etc.

From the above discussion it is clearly evident that agricultural marketing in Araria is varied in terms of space and time with respect to arrival and prices. Market arrival plays an important role in determining price of agro-commodities as it represents supply side. However, the study area is having highly imperfect nature of market due to its oligopolistic tendencies, inadequate system of marketing, and lack of
infrastructural facilities. The imperfect nature of the agricultural marketing system has been serving as a serious constraint for the development of the agricultural sector and has resulted in non-remunerative price to the farmers on the one hand and unreasonable price to the consumers on the other. The conditions, under which the farmers dispose of their produce and the price which they receive from them, have significant bearing on their farm activities. It is now commonly believed that the improved marketing facilities contribute to the agricultural development by encouraging magnitude of production. Actual loss of products is caused by the inefficiencies in their movement from the farmers to the consumers, passing through various phases like processing, storing and transportation of the agricultural products. The variation in the storage costs and loses are very high. Transportation and handling losses also vary with the nature of crop and technique of marketing. The presence of various undesirable market charges and the exploitative behaviour of the traders contribute to higher marketing costs and price spread.

An efficient marketing system encourages increase in agricultural production by reducing the marketing costs incurred by the producers and by lowering the prices paid by the consumers. This expands the market and subsequently brings higher returns to producers. The need for an efficient marketing system calls for an improvement in existing marketing system. Since the recommendation of Royal Commission on Agriculture (1928) the central government has taken a number of measures to improve agricultural marketing in the country. Among such measures taken by the state government mention may be made of constitution of Agricultural Marketing Section of the Department of Agriculture in March 1935, the Agriculture Produce (Grading and Marketing) Act 1937, regulation of markets, throughout the state, the
market development project introduced in 1973 to develop and modernize the agricultural markets in Bihar to take over the wholesale trade in the year 1974 etc. Some of these measures have attained partial success, while others are either completely withdrawn or are in the initial stages of implementation. Even after the establishment of market yard at important places it still remains a dream to achieve the goal of efficient marketing system.

Suggestions

Thus, the present study suggests that in order to promote the efficiency of agricultural marketing and optimal distribution as well as to augment marketable/marketed surplus, an integrated market development policy comprising the following measures should be applied to the marketing of agro-commodities.

First, the government should adopt the policy to increase the agricultural production, with a view to increase marketable/marketed surplus. Although considerable progress has been made, particularly over the last two decades but the production in the state has not yet attained the desired results as anticipated by the state government. A major reason for this disappointing position is that not enough attention has been devoted to provide for the facilities and services which must be available to the farmers if agriculture is to develop. The past government policy is not found any more relevant or effective in present situation, in assisting orderly distribution of marketed surplus and in providing better prices to the farmers for their produces. The findings of this study indicate that the development of big urban and regulated market does not appear to be fruitful for the small and marginal farmers. A very large percentage of the farmers, particularly small and marginal, find it more convenient to sell its produce in villages and haats. It is thus, clear that rural primary markets including haats are more relevant,
and will continue to be so for many years for the great majority of the farmers. With this reality the basic task of the government is to reorient the regulatory measures in favour of periodic markets by providing marketing and credit facilities which alone can protect the farmers from the exploitation of various intermediaries existing between them and the consumers.

Secondly, since the farmers sell the largest proportion of their production during the three/four months immediately after the harvest, stability of harvest price is an important issue for the agricultural production and the marketing decisions. The price which farmers receive during this period influences the proportion of harvested crops sold during this period, as well as their ability to finance next year’s crop. The farmers should be assured of at least the minimum price after post-harvest on which they can survive as well as invest for cultivation of a particular crop. This means that there should be an effort on the part of the government to stabilize prices particularly during post-harvest period.

Thirdly, though seasonal fluctuations are not expected to be wiped out altogether from an agricultural market but their effects can be minimized. Large seasonal fluctuation in price causes a hardship on consumers. This also leads to conservative storing plans for the following years. Seasonal price instability encourages speculations by those who are often not experts of market conditions and this introduces a great degree of uncertainty into the production plans of the farmers, and the marketing plans of consumers. A financial help in the form of easy credit and aid to the farmers particularly small and marginal ones, on the pledge of taking their produce for marketing can also play an important role in minimizing their dependency on the intermediaries. Thus, a balanced program should be attempted to raise and stabilize
harvest price while holding within limits the variability in seasonal price fluctuations.

Fourthly, the present study indicates, the price spread is quite large on account of various undesirable marketing charges and arbitrary deductions made by the traders. It, therefore, becomes imperative that the efforts should be made to increase producers' share in consumers' price, thereby causing a reduction in the wholesalers' and retailers' margins. However, it is encouraging to note that the trade margin has fallen after the establishment of the regulated markets due to abolition of various undesirable market charges. Still a large number of small and large farmers sell their crops in periodic markets. There is a need to strengthen this aspect with the help of the government to reduce the marketing margin in periodic markets too.

Fifthly, marketing can not be divorced from a consideration of production process. Farmers need integrated assistance for their production activities. The problems faced by small farmers in marketing their output arise basically from the conditions under which they produce. They borrow even to meet their consumption needs. Their farm business income is far below the minimum, which is necessary for bare survival. As they borrow mostly from the village money-lenders, they are bound to sell their commodities to them as they have taken loan at the lower interest rates. The marketing system is dominated by the small farmers therefore government intervention is essential to protect the interest of the farmers by giving loan at right time. The problems of production and marketing need to be tackled simultaneously through integrated agricultural policies. Any one-sided approach is not likely to yield much result.

Sixthly, the organization of cooperative marketing requires additional preference for improving the marketing conditions. Because
it will strengthen the bargaining power of the farmers at the first stage of marketing i.e. from the farm to wholesale market. Though, cooperative marketing is not playing any important role in agricultural marketing in the study area, it is possible to inter-link cooperative credit and cooperative marketing to reduce the dependence of farmers on influential intermediaries and money lenders.

Lastly, the findings of this study have a large range of implications. It needs appropriate measures to facilitate the marketing efficiency. Because, there is ample evidence to show that inspite of several measures, agricultural trade has neither experienced a change in techniques of marketing nor the improvement in the marketing conditions of the majority of the farmers. This failure is mainly attributed to the non-adoption of an integrated market development policy and to the lack of positive and facilitating role on the part of the government. The present study, overwhelmingly, shows that markets of Araria district are integrated spatially while temporal (seasonal) fluctuations are pronounced in the arrivals and prices of agro-commodities, however, government controlled regulated markets show some positive impact on improvement of the overall marketing system. The need, therefore, is to supplement the scheme of modernization of agricultural marketing through a well-designed ‘integrated market development policy’ comprising all the measures as suggested above, in improving the existing structure of market, its functions and performance. Any strategy for the overall development of agriculture appears ineffective, in the absence of an efficient integrated farming marketing system, in the study area in particular and in the country in general.