Chapter: VI
CONCLUSION

The study has attempted to analyze one of the puzzles on the performance of Indian agriculture, why states do perform differently in the post independence period. The received literature identifies four set of factors that influence the agricultural performance. The factors are like natural factors, state policies with respect to provision of inputs and output and ‘history matters’ in terms of land settlement introduced in the colonial period. In addition to the above factors, this work attempts to propose that the structure of the state economy also matters. Here structure is identified in terms of incomplete transformation of the economy and by implication non-dominance of market structure in the economy. Even under conditions of incomplete transformation of the Indian economy, the states are not similar in terms of the relative importance of market economy. Some states may have a relatively more dominant market economy when compared to other states. So the economies with a relatively more dominant market economy may be able to perform better (in terms of growth of output) when compared to economy with a relatively less important role for the market economy. Studies on the performance of the Indian states do not explicitly bring out the structural differences as an explanatory variable into their analysis. This work attempts to bring the structure of the economy as an important feature of analysis.

The method used in the study to capture the influence of structure on the performance is from the side of effect. Agricultural performances of the two states were studied and the cause for the differential performances is attributed to the difference in the structure of the economy. Thus there is a link from the effect to the cause.

In a market oriented structure the performance of the agrarian economy is largely determined by crop diversification towards high valued crops due to specialization and division of labor (demand side factor) and introduction of modern inputs into the production process (supply side factors). In such an economy the performance i.e., growth as well as cyclical behaviour of income originating from agriculture is determined by these factors. While in a traditional economy the performance of the economy gets determined by natural factors as well as the land under cultivation. Under conditions of incomplete transformation,
states with relatively more dominance the market economy will have its performance determined by crop diversification and the use of modern inputs. However the states with dominance of traditional economy will have nature and land under cultivation being the important decisive variables for the performance of economy. The study considers two states, namely Orissa and Andhra Pradesh for analysis.

The structure can introduce constraints to the agents to expand the production by constraining the demand that exists or by introducing constraint to the supply of goods by the agent. The supply side problem arises in an economy by the structure when an agent has an incentive problem since they have feelings that they will not able to appropriate the result from the expended production and so may not expand production. The study identified three type of supply-side constraint faced by the agent. The land settlement process introduced by the colonial state for the state of Andhra Pradesh are more conducive for the appropriation of increases in the output when compared to Orissa due to the higher proportion of land under ryotwari settlements and relatively more successful implementation of land reforms measures. The proportion of tribal population (who are largely semi-closed to external influences) is less for the state of Andhra Pradesh when compared to Orissa. Andhra Pradesh also has lower proportion of non-workers when compared to Orissa.

A demand side constraint is introduced by the structure when the agent does not want to expand the production because of lack of demand in the system. In Andhra Pradesh, the share of the small farmers was higher than in Orissa. The allocation of labour in the different sectors of the economy can also lead the demand side constraint. With the process of development one would expect the change in composition of labour as well as output. When the share of labour engaged in industry sector is high, that can lead to migration of labour from agriculture to industry which in turn leads to increase in demand for goods and services. The share of workers engaged in the industry and services sector was much higher in Andhra Pradesh compared to Orissa.
The structures of the two economics are different both from the demand side as well as form the supply side. But if one compares the two structures, it shows that the structure of Andhra Pradesh economy is more conducive for growth when compared to Orissa economy.

The agricultural performance of the two economies was studied by taking agricultural income as the main indicator. The growth rate of agricultural income was higher in Andhra Pradesh than Orissa. The whole period of analysis is divided into three different phases. Over the three phases the growth rate of agricultural income witnessed an increasing trend for Andhra Pradesh. But the growth rate of agricultural income declined from the first phase to the third phase in Orissa. The first structural break for agricultural income for Andhra Pradesh (1975-76) coincided with a break in the index number of yield. The second break for Andhra Pradesh (1988-89) coincided with a break in the index number of crop diversification. In the case of Orissa, the nature of generation of break points was different from that of Andhra Pradesh. The first structural break point of agricultural income in Orissa (1976-77) coincided with a break in index number of land under cultivation. The second break for Orissa (1991-92) coincided with breaks in index of area, yield as well as towards specialization of crop production. The factors accounting for structural breaks in Andhra Pradesh are due to yield increase and crop diversification while in Orissa land continues to be the main factor accounting for breaks.

The next exercise in the work is to account for growth in the different phases. The first phase in Andhra Pradesh witnessed intensive method of cultivation with increase in area under irrigation and expansion of the double cropping area. There was no significant increase in the actual area under cultivation in the first phase but area under double cropping witnessed increasing trend. The first phase also witnessed the diversification from inferior crop cultivation towards the superior crops like rice and oilseeds. In the second phase there was a shift in the importance towards uses of modern inputs and irrigation through wells in Andhra Pradesh. The second phase in Andhra Pradesh can be termed as the ‘modern inputs led phase’ that led to the increase in the growth rate of aggregate income. The diversification of crops from foodgrains towards oilseeds and cash crops was higher in the second phase. The third phase in Andhra Pradesh witnessed sharp decline in the area under total foodgrains including paddy and an increase in the area under oilseeds and cash crops. The growth rate
of the area under cash crops was higher in the phase. The diversification towards market oriented crops implied the increase in the private initiative in the state. The use of fertilizer and well irrigation were the factors influencing the aggregate income in the third phase. Orissa agricultural economy witnessed increase in the major and lift irrigation sources in the first phase. The area under paddy declined in this phase with an increase in the area under pulses and inferior crops. At the aggregate level all the category of crops witnessed increase in the area under cultivation with sharp decline in the area under vegetable and other crops. Thus the factors influencing the aggregate income in the initial period were area under gross cropped, land under major irrigation sources and exogenous factor like rainfall. In the second phase there was expansion in gross cropped area with an increase in area under double cropping. Even though the use of HYV seeds and fertilizer was high in this phase, the area under rice and cash crops declined and area under pulses and oilseeds increased. The factors that highly influenced the aggregate income were gross cropped area, net sown area and area under paddy. This shows that the second phase in Orissa did not witness any shift from the ‘area led growth’ towards the ‘modern inputs led growth’ process. Even if the growth rate of the utilization of modern inputs increased, its realization towards the output was negligible. Thus the aggregate income from agriculture was very low in the second phase. The third phase witnessed decline in the area under cultivation and increase in the area under lift irrigation. There was significant increase in the share of land under paddy and decline in the share of land under oilseeds. Thus, the factors like area under double cropping, area under paddy and rainfall were the defining factors for the decline in the income in the third phase.

In the process of accounting for growth in each phase, Andhra Pradesh witnessed that the importance of land as a source of growth is declining and the importance modern inputs and crop diversification takes a central role. But in the case of Orissa, the importance of land and natural factors continue to play an important role.

The third aspect being studied is the short run fluctuations and the sources of short run fluctuations of income originating from agriculture. The sources of fluctuation in production or income can be different from one set of economic system to another. Different economic
systems may have different combination of production structure thus generating different types of cyclical behavior pattern in the growth process. In a modern economy there is increase in use of the modern inputs for the production process and market interactions increases. Thus in this type of economy the cycles in the aggregate income series is generated by modern inputs. On the other hand, the economy with the dominance of the traditional production system witnessed the importance of the traditional factors like land and rainfall for the generation of the cycles. The co-movement of the variability in agricultural income and the factor inputs is analysed in the study.

The sources of the short run fluctuations in agricultural income for Orissa were mainly land under cultivation, area under foodgrains and rainfall in all the three phases. Thus in the case of Orissa, the co-movements of the cycles in land and the natural factors lead to fluctuations in agricultural income. In Andhra Pradesh the factors which witnessed higher impact on the fluctuation in the agricultural income has changed from one phase to another. In the first phase mainly area under irrigation, area under cash crops and the land cultivated witnessed significant influence towards the fluctuation in the aggregate income. The cycles existing in the use of modern inputs explained the fluctuation in the income at the second and the third phase. In Andhra Pradesh, over the time period, the co-movements of the modern inputs with agricultural income has increased compared to the natural factors.

The two agrarian economics have different structures with the structure in Andhra Pradesh more conducive for growth when compared to orissa. The performance of the Andhra Pradesh agrarian economy seems to have moved out of the ‘land constrained’ system and is more responsive to the application of modern inputs as well as to diversification towards market oriented crops with private initiative playing a role. However, the performance of Orissa agrarian economy continues to be ‘land constrained’. To conclude, the study finds that the initial structure as well as the evolving structure of the two states is different in terms of the growth and fluctuations. Therefore, the state level comparison of the performance of the agriculture sector depends on the structure of the particular state economy. Hence, the present study concludes that to analyse the performance of the economy, the structure of the economy needs to be studied.
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1.2  Importance of Structure in Studying the Performance of States
1.3  Objective of study
1.4  Indicator of Agricultural Performance
1.5  Sources of Data
1.6  Chapter Outline

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