



ORIGINAL RESEARCH PAPER

Economics

AGRICULTURAL PRODUCTIVITY AND SELECTED CROPS IN KARNATAKA- SOME SUGGESTIONS

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ABSTRACT

Agriculture development plays an important role in the economic development of the country. The economists, sociologists, political thinkers, planners and administrators hold the view that the success of economic development programmes depends ultimately on the agricultural development. India is a vast country comprising of 28 States and 6 Union Territories. The level of economic development achieved in these various political cum administrative subdivisions finally determines the economic development of the country. Keeping in view the magnitude of population and vastness of area, the economic development of Karnataka State has an important role to play in the economic development of the country. In the economic development of the state, the role of agricultural development is quite decisive.

INTRODUCTION:

In a country where agriculture is the mainstay of the population, measurement of agricultural productivity is of great importance. With the growth of population at a rate of about 2.1 percent per annum the measurement of agricultural productivity should not only help in locating regional imbalances in production but also suggests the methods, how production/productivity can be increased to feed the growing millions. Keeping in view the foregoing analytical frame, and major findings there are certain measures which may be taken into consideration while making efforts to reduce the regional imbalances with regard to the agricultural productivity in the state of Karnataka.

Gives Some Suggestions in the bellows:

I. There is a regional imbalance in the productivity in the sense that there are Very High, High, Medium and Low productivity regions and in these regions the agricultural output (in monetary terms) varies from less than 9.375 thousand rupees per hectare in Low Productivity region to more than 77.03 thousand rupees per hectare in Very High productivity region. The regional imbalance in productivity is also reflected in the availability of output in relation to population in the respective productivity regions of the state.

In order to reduce these regional imbalances in productivity efforts should be made to raise at least the productivity of Low and Medium areas. These regions cover 45.04 and 39.70 percent respectively of the cropped area of the state.

Based on the statistical models developed between input variables and productivity, systematic procedures may be adopted to bring the level of productivity of Low productivity regions at par with Medium productivity regions and productivity level of Medium regions at par with High Productivity regions. The different combination of variables I to VII, which have been identified passes a certain relevant relationship with that of productivity and input variables. These combinations may be used for taking a proper policy actions to eliminate/reduce the regional disparities and to develop the regions in a required manner. For example; if policy is adopted to bring the Low productivity regions of the State (with a mean productivity of 9.375 thousand rupees per hectare) at par with Medium productivity regions (with a mean productivity of 23.613 thousand rupees per hectare) an increase of output worth of 14.238 thousand rupees per hectare as a target of achievement, the quantum of increase will be

$$\frac{23.613 - 9.375}{9.375} \times 100 = 151.80 \text{ percent.}$$

Therefore, the desired increase in productivity would be 152 percent per hectare in the Low productivity regions. This can be possibly achieved with reference to the combination VII, which signifies four independent variables of X2, X4, X6 and X7 with a multiple correlation of 0.95994. In other words, the development of Low productivity region at par with the level of Medium

productivity regions requires the increasing supply of irrigation facilities by canal (X2), irrigation facilities by other sources (X4), fertilizers (X6) to the Low productivity region along with the decreasing labour pressure on the said region (X7). As such, the required policy has " to be directed towards this end.

(II) In addition to the above, the following suggestions are made for reducing the regional imbalances with regard to agricultural productivity and also for the overall development of agriculture in the state of Karnataka:

1) The long term perspective of poverty reduction required increasing foodgrains production to 12 million tonnes. But the state has hardly produced more than 9 million tonnes of food grains in the best monsoon years. In other words, Karnataka state is a marginal deficit state in food grains production, particularly in cereals. Besides, they are considerable shortages in the production of essential commodity like Pulses and Oil Seeds. Pulses production has almost stagnated at 6 to 7 lakh tonnes. However, Oil Seeds Production has almost doubled during the last two decades though their production has declined in the past five years. Hence, the future development strategy for agriculture in the State, in general, and Low and Medium Productivity regions in particular should be: to concentrate on encouraging production of horticulture crops; raising tree crops; furthering the development of Oilseeds and Pulses production; timely supply of required inputs to formers in general and to the small and marginal formers, in particular; a clear policy of promoting allied activities like animal husbandry, horticulture, farm forestry, poultry and fisheries; and encouragement to the establishment agricultural process unit either on co-operative basis or an individual basis.

2) The input research in agriculture is still very weak in the State. The State has had known new varieties of food grains in last 15 to 20 years. Active research in this direction, therefore, needs a big thrust. Availability of quality seeds is causing concern in recent years. The National Seeds Corporation and the State Seeds Corporation have not been able to keep pace with demand. Moreover, the cost of seeds has been increasing due to higher overhead cost of these organizations. Hence, the capability of these organisations and also the possibility of giving scope for private sector initiative in the field of seed production, processing and distribution are to be reviewed keeping in view the existing regional imbalances in agricultural productivity of the state.

3) In the light of liberalized economic policy pursued by the Government of India, the Government of Karnataka formulated a forward looking agricultural development policy. This policy envisaged allowing commercialization of agriculture and appropriate institutional changes to facilitate and attract inflow of private investment under profitable commercial agriculture. Even so, the state government may have to encourage production of food grains through appropriate mix of price incentives and by making available the required inputs to dry land agriculture in dry

areas and also required inputs to the agriculture of low productivity regions of wet areas. It is well known fact that it is dry land agriculture that contributes more to food grains production than irrigated agriculture. Irrigated agriculture has been going in the direction of commercialization and it has not been possible to enforce scientific cropping on lands which come under major command areas because of price fluctuations, and owing to farmer's preference for stable output. Therefore, more emphasis should be given to provision of extension facilities to dry land agriculture. Linked to this strategy are the watershed management in particular areas especially in Low productivity region of the state.

4) Karnataka has made good strides in dry land agriculture through introduction of watershed management. This should be continued and intensified during the present plan period. This programme, however, depends heavily on the participation and voluntary consent of farmers whose land falls within the watershed. So far there seems to be no problem. But the crucial question is whether this watershed technology can sustain on its own when government withdraws from the scene. Without these beneficiaries learning to manage watershed on their own, watershed management will not sustain. Therefore, Zilla Panchayats, Taluka Panchayatats and Village Panchayats will have to increasingly involve themselves in making this programme sustainable.

5) The low category districts in terms of agricultural development in the state have attracted only 28.00 percent of development funds of state. Interestingly the State Finance Commission has remanded the following weightage while allocating plan outlays to Panchayat institution: (i) Proportion of population living in rural area (33.33 percent), (ii) Proportion of area covered by PRIs (33.33 percent), (iii) Illiteracy rate (11.11%), (iv) Length of roads per sq.km. (11.11%) and (v) number of persons per bed in Government hospitals (11.11%). Obviously these indicators do not comprehensively reflect the degree of development in any of the major sectors like agriculture, industry, socio-economic front, etc., Therefore, there is need to prescribe different weightage taking into consideration the various development indicators to ensure proper allocation of funds to Zilla Panchayat at district level and Panchayath Raj institutions at grass root level.

Karnataka is one among a few states where attempts have been made to strengthen local Panchayat Raj institutions by empowering them to undertake all developmental activities and these institutions are also being strengthened by budgetary support. At present, role of these institutions are more or less restricted to the implementation of programmes thrust from the above. In order to implement development strategy especially for agriculture, there is greater need to ensure that these institutions are not only involved in preparing blue prints but also in evolving appropriate participatory mechanisms based on prevailing social milieu. Development indicators prepared for different sectors would be the guiding factor in planning, implementing and monitoring the development activities.

6) Of course, the performance of agriculture in Karnataka since 1950 has been quite impressive. However, stagnant level of production and decelerated trends in foodgrains output has resulted in shortages in recent years. The agricultural strategy based on new technology and its selective area approach has created disparities among districts of the state. The use of modern technology, though shifted growth curve to a larger extent the gap between the developed and less developed districts cannot be bridged due to differences in resource-base and infrastructure. There are areas where agricultural output has grown at phenomenal rate exceeding 5% per annum, and there are also regions where agricultural output has either increased at a very low rate or either stagnant or even declined. In other words, there are wide variations in the rates of growth of agriculture in different districts of the state. Hence, the required infrastructural facilities are to be developed and made available in Low and Medium productivity regions on priority basis in order to increase the agricultural productivity levels at par with the productivity levels of developed districts in the state.

7) The State has been implementing a number of programmes in animal husbandry and dairy. But the state has been facing fodder shortage especially in low productivity regions; therefore, the concept of one fodder bank at least for one taluk has to be pursued to ensure that the fodder demand within the taluk is met fully by local supplies; especially in Low Productivity regions. This would require appropriate land use policy. Though the Government of Karnataka has formulated a comprehensive land use Policy for ensuring adequate fodder supply, afforestation, environmental balance and judicious use of land for an alternative purpose at Panchayat level, it has not been implemented. Such a land use policy has to be revived with an integrated approach to fodder, fuel and rural energy supplies as they are inter-related especially in the case of Low and Medium Productivity regions.

8) From the analysis of identification of factors determining productivity it is found that uncertain rainfall has resulted in a shift in cropping pattern towards non-food crops and non-foodgrains, and has nullified the impact of credit and fertilizers in raising the productivity levels. Hence, strengthening of source base is a necessary Pre-requisite for increasing agricultural productivity in the districts of Low Productivity region of the state.

9) In the wake of economic liberalization, the state Government should attempt the following for further development of agriculture in the state, Farmers should be encouraged to go in for non-traditional crops to maximize their income in various agro-climatic regions. This should include modern floriculture, horticulture, aquaculture etc. Use of biotechnology in these new areas should be encouraged. Karnataka has got high potential for horticultural crops. Though the production of horticultural crops has increased in the recent past, the state has not been able to harness the full potential mainly because of lack of institutional support of marketing transport and storing.

These problems have to be identified and overcome in order to develop horticulture as a remunerative economic activity within agriculture. Sericulture has spread to new areas in the state. Karnataka has certain comparative advantages in mulberry silk production. The state government is currently implementing the second phase of the World Bank funded sericulture development programme in the state. It should not hesitate to go in for third phase that should be entirely devoted for improving the quality of the cocoon.

10) For Karnataka's agricultural economy to pick up in future, the following measures are required: Research in the two Universities of Agriculture in the State has to be more focussed and purposive. Immediate attention is required to bridge the wide Gap which now obtains between potential and actual yields, even on the basis of available technology. The T and V system of extension has not proved effective; emphasis should be on group contacts and demonstrations, which will result in wider dissemination. Especially for the dry land areas of the state, the focus should be a shift from a few field crops to a range of farm enterprises. The private sector should be encouraged to expand its role in seed supply at the same time strengthening certification arrangements. There has to be stability in fertilizer price policy. Irrigation investments should be made more efficient through better fund flow and project management and there has to be much wider participation of farmers in the distribution and use of water. A massive programme for restoring the capacity of irrigation tanks has to be taken up. Groundwater legislation must be introduced. The Co-operative credit structure has to be re-activated. Land laws should be amended to permit large holdings for seed and export production. Minimum support prices should ensure a reasonable return to the farmer. The emphasis should shift from subsidy to investment. While there may be a case for concessional credit for agriculture because of risk and uncertainty, there is no justification for wide ranging and heavy subsidies, from both financial and equity angles. In spite of natural disadvantages, varied agro-climatic features and diversified crop patterns can make Karnataka agriculturally resilient.

11) Labour Productivity in agriculture: An important development during 1980-81 to 1997-98 was a perceptible rise in labour

productivity in almost all the regions of state. To increase labour productivity further, the growth rates of agricultural output would have to be accelerated and attempts would have to be made to reduce the demographic pressure on agriculture through labour force diversification. The rise in farm labour productivity by itself releases forces which tend to increase income and employment in the non-agricultural sector through input, output and consumption linkages. An important policy intervention is to encourage diversification in agriculture and agro-related activities through large-scale investment in the development of agro-processing and related industries. With expected withdrawal of agricultural subsidies by the developed countries subsequent to the signing of the W.T.O. agreement, India in general and Karnataka in particular have the opportunity to increase their trade in agriculture especially in processed agricultural commodities. This could give further impetus to growth of employment in allied agriculture, agro-processing and related industries thereby leading to lessening of demographic pressure on agriculture. The Policy intervention should be of a promotional nature where stress is laid, firstly, on R and D in these activities, secondly, in creating network of information system and thirdly, in encouraging the setting up of co-operative organizations like the National Dairy Development Corporation which specialize in purchase, manufacture and exports of agricultural products. Most important, institutional credit flow to rural activities has to increase and be made easily available.

The recent Indian experience suggests that there are large potentialities in crop diversification and exports. The need for the involvement of small and marginal farmers in the process of diversification cannot be underestimated. Policy makers should devise appropriate institutional strategies to involve the small and marginal farmers so that they may also be able to avail of the benefits of increasing growth, agricultural diversification and of exports.

12) High growth in crop output in the state has to be sustained through continuation of policy of minimum support prices. To be effective, there is a need to develop better roads, communications and market infrastructure and a commitment by the FCI to procure all the grain that comes to the market. In particular, FCI has to be asked to be specially active in the new emerging surplus areas. Without the cultivator being given the assurance of remunerative price, it would not be possible to sustain the output of growth in the state.

13) Finally Proper implementation of the policy by the state Government:

The Agricultural Policy recently announced by the Government of Karnataka noted the recommendations of the Expert Committee on stagnation of Agricultural Production in Karnataka. The policy emphasized a much needed comprehensive and integrated approach in the development strategies of agriculture by combining horticulture, sericulture, fisheries, other field crops and animal husbandry, under a single entity. The Policy envisages opening up of agriculture and allied activities to larger land holdings by permitting private sector (such as private enterprises, corporations) to own and operate up to 50 acres. The said policy also proposes to modify the prevailing subsidy system in irrigation water rates and power supply by appropriate pricing system of inputs for agricultural purposes. The policy also takes cognizance of the declining trend in investment in agriculture and commits an investment of Rs. 1000 crores per annum for five years through reconstituted funds delivery system in order to achieve 4.5 percent annual growth in agriculture. The said policy as such is good but it has to be properly implemented at all levels. At the same time, serious lessons could be drawn from the death of ryots in recent days due to the crop losses. Who are responsible for these large scale crop losses and loss of invaluable lives of poor farmers? Can the present agricultural policy ensure any safety mechanism against these evils? Lost but not the least important is the question of share of producer in the consumer's rupee for at once this is the determining factor for over all agricultural development. Therefore, measures to incorporate aspects of long term sustainability and stability of production and socio-economic equity need to be embodied into the policy. Further, the impact of

the policy within a certain time period should be evaluated in order to make the policy meaningful. Even if the policy has not indicated any bold and progressive revamping of the agricultural sector, it is a welcome steps in so far as it is the first of its kind in the country and shows way for others to follow.

CONCLUSIONS

The present study shows that there are wide regional variations in both-the levels and growth of agricultural productivity/output and also in the use of inputs in various districts of the Karnataka State. While there are areas where agricultural output has grown at a phenomenal rate exceeding 5 percent per annum, there are also regions where agricultural output has either increased at a very low rate or has been either stagnant or even declined. Similarly, there are areas where productivity levels are very high and other areas where they are extremely low. Hence, the present study has put before the community the contours of the current crisis of the agricultural economy of Karnataka and identified the areas of low levels of agricultural growth. Further, it has analyzed in detail the reasons for the low performance and suggested suitable measures for the development of agriculture in the state.

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