CONCLUSION AND SUGGESTIONS

It may be concluded from the foregoing analysis that there are marked regional variations in the levels of agricultural development its determinants and food security in the North Bihar Plain. The levels of overall agricultural development measured in terms of a large number of input and output indicators is either high or medium in the western and southern parts of the study area, whereas, its eastern and northern parts is very backward in this regard. This pattern is also in close conformity with distributional pattern of the factors of agricultural development.

Further this study concludes that the yield of cereals in the North Bihar Plain is 16.35 quintals per hectare which is remarkably lower than the national average yield of 18.44 quintals per hectare. This lower yield of cereals in the study area is explained by lower percentage of net irrigated area to the total cropped area (19.33%), low concentration of tractors (32.63 per 10,000 hectares of total cropped area) and pumpsets (3115 per 10,000 hectares of total cropped area) as against their respective value of 43.02, 247.1 and 1599 at national level. Though, consumption of fertilizer in kg. per hectare (118.84) and percentage of area under High Yielding Varieties of seeds are 94.25, which are higher than the national average of 94.80 and 61.19 per cent respectively, still yield or productivity of agriculture in the study area is lower as compared to the national average on account of lower percentage of area under assured irrigation as it is the most important factors of agricultural development on which success of other inputs of agriculture depends.

The preceding discussion on food security in chapter Vth also reveals that caloric availability of the study area is far below 1944 calories per person per day than the national average of 2365 in 2001. It means that the study area has not been able to fulfill the total requirement of caloric intake of its people even at national standard level i.e., 2400 calories per person per day. The distributional pattern of caloric availability during 2001 among the districts of North Bihar Plain is not uniform as it varies from 1394 calories per head per day in Madhubani district to 3200 calories in West Champaran. Six districts namely, Saran, Vaishali, Sitamarhi, Sheohar, Madhubani and Bhagalpur have reported caloric availability even less than 1800 calories and most of
them are located in central north and southern part with exception of only one district
namely, Bhagalpur in the south eastern part of the study area and rest of the districts
either record high or medium caloric availability.

The position of foodgrains availability which is an important indicator of food
security has also not been reported satisfactory during 2001. It has been estimated that
8.43 million tones of foodgrains have been required to meet minimum requirement of
the existing population but actual production is 7.08 million tones. Thus, there is
shortage of food up to the tune of 1.35 million tones. The regional average in respect of
the availability of food has been worked out to 131 kg. per head per annum and the
national average being 173 kg. as against a minimum requirement of 176 kg. This
clearly implies an overall deficit in the supply of foodgrains to the extent of 45 kg. per
capita per annum in the case of North Bihar Plain.

The regional pattern of food availability is depicted in Fig.5.3 which clearly
shows that food deficit districts are mostly confined in the central part of the study area.
The position in this regard is better in western and eastern part of the study area which
either record high or moderate foodgrains availability. By and large similar pattern in
the case of food stability and accessibility have also been observed. The overall
situation of food security is better in the western and south eastern part of the study
region, whereas it is worst in north central districts except only one isolated district in
south central part.

As far as relationship between food security and agricultural development is
concerned, it is found to be moderately positive in the case of roughly 41 per cent of the
districts. Out of twenty two districts in the study area only nine districts have shown
positive relation and coincide in the same category of both agricultural development as
well as food security. The results of linear correlation also support this fact as there is a
strong positive correlation between caloric availability and production of foodgrains
(+0.726) and yield of foodgrains (+0.557). These are significant at 1 per cent level.
Following strategies are suggested to overcome the problems of food insecurity in the study area:

* Since the yield of food crops in the region is lower than the national average due to lack of irrigation facilities, therefore it suggested that area under assured irrigation should be extended. It will help taking full advantage of Green Revolution for raising agricultural productivity and ultimately reducing food deficit of the region. Thus the shortage of 1.35 million tones of foodgrains annually in the region may be covered largely by increasing agricultural productivity which is possible through extension of bringing more and more areas under assured irrigation for the success of Green Revolution.

* One of the major problems of this region is flood which badly damages the crops as well as life and the property of the people almost each and every year. In 2001 annual floods affected 8.2 million people and 7, 80,000 hectares of land out of which over half of the land were under crops. The estimated amount is Rs.28 billions loss to public property. Hence flood control measures should be taken on priority basis.

* Though food insecure regions and states have been identified still identification of chronic and transitory food insecurity at household and individual level has not been attempted. So identifying vulnerable section especially weaker sections of society such as scheduled castes, scheduled tribes, backward castes minorities and women is the need of hour.

* Food security depends not only on availability of adequate food supply but also on purchasing power of the people. Purchasing power of the people can be enhanced through generation of employment under various integrated rural development programmes covering the areas of flood control, providing irrigation facilities, construction of roads, development of agro-based industries and conservation of natural resources.

* Public Distribution System (PDS) is one of the most important instruments to achieve food security. It plays a vital role in price stability of essential commodities such as cereals, edible oils and sugar. These commodities are sold
in the fair price shops at subsidized rate. However, the inclusion of poor in the PDS is quite low, leakages are high and there are innumerable problems in physical access. Low purchasing power is also a factor in the functioning of PDS. Hence there is need of proper functioning of PDS under the supervision of local self bodies and NGOS.

★ There are post harvest losses of nearly 10 to 15 per cent of foodgrains which can be minimized by providing proper storage facilities. Therefore, there is need to develop adequate storage facilities at Village Panchayat and Mandi levels managed by cooperative societies.

★ The study area experiences very high growth rate of population (2.8 per cent in 2001) as compared to 1.93 per cent in India. Therefore, high growth rate of population must be checked, which is possible by raising level of education and standard of living of people in the region.

★ This region also is one of the mostly densely populated regions of India where density of population is 1005 persons per square km. as against the national average of 324 persons per square km. which has led to fragmentation of land holdings. The average size of holding in North Bihar Plain is declining having fallen to around 0.073 hectare. This has slow down the modernization and development of agriculture.

★ This region faces serious problem of unemployment as the percentage of main workers to the total population is 25.34 per cent which has caused large scale out migration of the people especially of landless labour, marginal farmers in search of jobs to other states. Therefore, there is urgent need of creating job opportunities within the region by developing growth poles and growth centers.

★ Production of higher value crops should be encouraged along with technological support, inputs supply and marketing of their produce .NGOS can play vital role in this regard.