CONCLUDING OBSERVATIONS

In order to analyse the impact of new agricultural strategy in Karimganj District an elaborate study regarding the use of new farm technology, use of modern farming equipments, H.Y.V. seeds, application of multiple cropping, use of fertilizers, pesticides, etc. has been made. From all these empirical investigations, it may be concluded that the use of all these elements are limited mainly due to the economic backwardness and some other unavoidable practical difficulties, for example, small size of holdings, illiteracy and all that. However, it is observed that there are some farmers who are more interested to make use of new agricultural strategy, e.g. fertilizers, pesticides, etc. But these farmers take resort to the new technology not generally for paddy cultivation but for the cultivation of vegetable crops since this has become more profit-yielding than that of paddy. It is also observed that the practice of multiple cropping is limited due to the non-availability of irrigation facilities. Incidentally small irrigation covers approximately only 4.0% of the total cropped area in the district as against 17.3%
in case of the state as a whole in 1990-91. Moreover, in case of the third crop, vegetables are cultivated almost all over the district. The average productivity of the vegetable crops is not significant and, as such, the required quantity is met by import from other neighbouring states, mainly from Meghalaya and of late from Tripura as well.

To make a comparative study regarding the productivity levels between the two types of villages, one which adopts new agricultural strategy and the other which does not, an intensive block-wise study was undertaken. In North-Karimganj block, the example of two sample villages, viz. Jatua, a developed village and Lafashail, a backward village may be cited. The field study reveals that in case of village Jatua, the productivity level has been increasing over the years due to the application of new agricultural strategy and in case of village Lafashail, the productivity level has been decreasing due to the absence of new agricultural strategy and the gradually decreasing tendencies of the natural fertility of the soil. The productivity of paddy per bigha is approximately 10 maunds.

1. Reference Table is given in Chapter-4, Table-4.2.
in Jatua and the same is approximately 5 maunds per bigha in Lafashail. It may also be pointed out that there is an increasing trend of average productivity level in Jatua, i.e. from 6 maunds in 1965-66 to 10 maunds of paddy in 1989-90. On the other hand, there is a decreasing trend of average productivity level in Lafashail, i.e. from 9 maunds in 1965-66 to 5 maunds of paddy per bigha approximately in 1989-90. Understandably this difference in productivity prior to adopting the new agricultural strategy was due to differences in "the original and indestructible powers of the soil", to quote Ricardo. Here in case of the developed village viz. Jatua, the application of fertilisers and pesticides is responsible for increased productivity in the agricultural sector. Thus the significance of adopting modern means of cultivation, viz. fertilisers, pesticides, etc. in the production process needs no emphasis. But these are very rare cases only because of low practices of the new agricultural strategy in the district as a whole.

N.B. :- Since the villagers still are accustomed in using the conventional weights of maunds, we have used their system in this study. Incidentally 1 md = 37 kgs.
To increase the productivity level in the agricultural sector, development of irrigation and the effective flood control measures play an important role. It appears from the field survey that the area where irrigation facility is provided, the average productivity level of paddy has been increasing gradually while the productivity level decreases or remains constant where irrigation is absent. The example of two sample villages viz. Jatua (a developed village) and Sajpur (an intermediary village) in the North-Karimganj block may be cited. In the village Jatua, the availability of irrigation facility together with some other relevant elements, increased the productivity mean which touches approximately 10 maunds of paddy per bigha (i.e. 25.9 quintals per hectare). On the other hand, in the adjacent village, viz. Sajpur, possessing more or less the equal fertility of the soil and the similar climatic conditions, due to the absence of irrigation facility, the productivity is approximately 1 maund per bigha (i.e. 7.8 quintals per hectare) only, which is approximately one-fourth of the yield rate in Jatua village where irrigation is provided in the cultivation process.

In order to compare the average productivity of the ideal village of the district, i.e. Jatua with that of
the sample district, i.e. Karimganj and extending it to the state of Assam and then to one of the developed states of the country like Punjab and finally to the country as a whole, the heterogeneous village-level weights and measures prevailing in different corners of the country have been converted into the uniform standard of hectares and quintals. Thus the productivity level in Jatua stands at 25.9 quintals per hectare (i.e. 10 maunds of paddy per bigha in 1989-90).\(^2\) However, the best productivity level in this village is found to be 46.5 quintals per hectare, by far the best, (i.e. 18 maunds of paddy per bigha in 1989-90). On the basis of primary data, it is found that the yield rate of paddy in case of the district as a whole is approximately 15.5 quintals per hectare (i.e. 6 maunds of paddy per bigha) in 1989-90 as against 13 quintals per hectare in case of the state\(^3\) as a whole. On the other hand,

2. Figures of the yield rates for sample villages as well as the district are computed on the basis of the data collected by means of questionnaire during the field study, (vide Table 3.14, Chapter-3).

3. In 1990-91, the average productivity of paddy per bigha is approximately 13 quintals per hectare [vide Appendix - 3.1(B)]
the average productivity in Punjab\textsuperscript{4} is 27.4 quintals per hectare as against the per hectare yield rate of only 16.9 quintals in case of the country\textsuperscript{5} as a whole. Thus, it is quite clear that the average productivity level in case of the sample district is lower than that in case of the Punjab, one of the developed states in India, as well as the average yield rate of rice in case of the country as a whole; but the same is a little bit higher than that of all Assam level. However, the best productivity level is found to be 46.5 quintals per hectare in case of the developed village, viz. Jatua, in the district which is higher than that in case of Punjab even. But these cases are very rare and not frequently found all over the sample district. In case of the one of the most backward villages, viz. Ghoramara, the non-availability of new agricultural strategy is responsible for either decreasing or stagnancy of the productivity level enjoying approximately 1.5 maunds per bigha only (i.e. 3.8 quintals per hectare approximately) which is miserably low as compared to the district average yield rate.


\textsuperscript{5} Economic survey, Assam, 1989-90, p.79.
It is also found in the field survey that there are some specific areas in Karimganj district where floods occur at least once in a year and thus it affects the productivity level to a considerable extent. The notable feature of all these flood-affected areas is that the productivity becomes almost zero, if flood waters remain for a considerable period of time during the peak cultivation period. The examples of Lafashail in North-Karimganj block, Suprakandi in South-Karimganj block, Ghoramara in Mahakal block, Ratabari in Ramkrishna Nagar Block, Mantrigram in Patharkandi block may be cited in this connection. From personal interviews with the farmers, it has come to light that most of the E and D bunds are either inefficient or mislocated. As a result, instead of increasing the productivity level, they adversely affect it.

From the block-wise study of the entire district, it may be concluded that the productivity level may definitely increase with proper irrigation facility in the flood-free areas while it may also increase or at least remain constant if the areas are protected from flood through effective measures.

Lastly, it is observed that there is the scarcity of food items like rice in the market and this
crisis is met by the imported rice from other states of the country mostly from Punjab and Haryana. Thus, it is revealed that the productivity level is not increasing at a satisfactory rate even after adopting the new agricultural strategy. On the other hand, the population is also increasing at the same time. Thus, if there is any marginal increment in the productivity level, this is not visible in the practical field. It may be rightly argued, therefore, that the impact of the green revolution is very negligible in Karimganj district. This poor performance is further confirmed by the fact that Karimganj district which was formerly self-sufficient in the production of rice and as such, rice used to flow to the urban and semi-urban areas from villages for marketing, has now started to move in the reverse order. As it stands now, imported rice from other states goes to villages in the district through grain dealers who are based in urban areas.

To ascertain and specify the reasons for the failure of Green Revolution in the district, the following points are taken into cognizance:

(1) Due to illiteracy, a large section of the farmers are against the application of new farm technology in the production process;
(2) Economic backwardness is also responsible for the low practice of the new farm technology. From empirical investigation, it is observed that there is a section of farmers who know very well the good impact of the application of modern techniques of cultivation with H.Y.V. seeds, fertilisers, pesticides, etc. in the production process. But only due to their financial constraints, they are unable to put them into practice;

(3) There are inadequate government arrangements or in certain cases such arrangements are totally absent. During our investigations, a number of striking points relating to the allotment of government fund for development and its actual utilization had been noticed. Firstly, it appears that hardly are the actuals equivalent to the allotment. It is apprehended that certain in between manipulation takes place in each case which makes a big gap between the allotment and the actuals utilized. Where these difference goes is any body's guess. Secondly, there have been cases of delay in receiving the fund allotted for specific rural development programmes, particularly those related to the new agricultural strategy programme. As a result of this lapse, huge money is spent rather in an unproductive manner or in most cases, yielding very low productivity.
Obviously, the developmental plans always remain on paper and not implemented in the practical field in most cases;

(4) Irrigation facility is inadequate or even absent in flood-free areas due to which the application of multiple cropping pattern, use of HYV seeds, etc. becomes difficult;

(5) Size of holding is too small to apply the implements synonymous with the Green Revolution, viz. tractors, fertilisers, pesticides, etc;

(6) Insufficient, ineffective and inappropriate flood-control measures are also responsible for the low agricultural productivity in the district. In some areas for example, Lafashail Sajpur, Rupagram, etc, it is observed that E and D bunds are adversely affecting the productivity level mainly in three ways:

(a) Creating water-logging problems;

(b) Preventing the paddy field from getting the silt from the rivers;

(c) Wide areas of cultivable lands becoming waste land as a result of excessive growth of hedge, water-hyacinth, etc.
As a result, the productivity level is gradually decreasing over the years; and

(7) Last but not the least, there are various types of monkeys, pigs (not the domestic ones), rats and some other wild animals which also damage the agricultural crops in some specific areas of the district to a considerable extent.

**SUGGESTIONS**

To overcome the above mentioned constraints on the way of intensive agricultural development of Karimganj district, the following suggestions may be forwarded. These are:

(1) Each and every person should be provided with proper education facility;

(2) Necessary financial assistance should be provided to the actually needy farmers, where approximately 60% of the total population live below the poverty line, in time so that they are able to make use of new agricultural strategy in the production process;

(3) Various developmental plans formulated by the government should be implemented practically with honest motive by the authority concerned;
(4) Adequate irrigation facility should be provided with active efforts and initiatives in the water-scarce areas with the changing needs of the circumstances.

(5) The consolidation of Holding Act, passed in 1960 should be implemented as far as possible overcoming practical difficulties, if any. Thus, the difficulties arising out of the small size of holding may be wiped out;

(6) Adequate flood-control measures should be undertaken. In order to control flood, before the construction of E and D bunds, it will be wiser to consult the farmers of the particular areas who acquire some instinctive expertise from experience to know the actual problems and the necessary remedial measures in this regard should be undertaken through public meeting than to construct them with inexperienced government engineers and constructors only on the theoretical basis, ignoring the actual necessity; and

(7) It seems to be reasonable that both the owner of the paddy field and the forest department should be very careful in protecting the crops from the ravages played
by the wild animals. As a result, with their joint efforts, the valuable crops may be saved resulting in increased agricultural productivity in the district. Moreover, the damages caused by rats and others should be checked as far as possible to enjoy higher productivity in the agricultural sector.