

Chapter IX

CORRECTIVE MEASURES SUGGESTED

Towards increasing agriculture productivity in low productivity areas of Malda an important step recommended is to increase agricultural productivity in Barind, which is presently about half of the level existing in the regions of Tal and Diara. This increase in productivity in Barind is the key to the agricultural development in the district.

The recommendations are prepared on the basis of preliminary background work undertaken (Benchmark survey, site visit & discussions with the local people) with the objective of: 'Overall improvement of the agricultural productivity in the less developed regions'.

For achieving this, the approach needs to be:

- Identification of farmer's constraint on the agriculture as a whole and productivity up-liftment in particular through Participatory Resource Appraisal (PRA) with farmers along with field visits.
- Understanding of the existing management practices of different crops
- Proper documentation of the base line data
- Determination of soil health status
- Frame action plan in consultation with the farmers without making drastic changes in their existing practices
- Extensive training cum demonstration to the farmers before cultivation of each crop
- Proper follow up of each step of management practices
- To arrange for visit of progressive farmers of the district to reputed agriculture institutes and farmers' field so that they can get an idea how other progressive farmers are farming.
- Arrangement of good quality and right variety of seed for the farmers from research centres and other areas on cost to cost basis

Technology: The technologies, which need to be followed in the district, should be farmer friendly and inexpensive. No modern technologies like Biotechnology, Genetically engineered crop are suggested now as these will not suit them now. In a nutshell the technology should be a combination of the following efforts:

- Selection of right kind of variety of a particular crop synchronising with the climate, market potential, soil test value etc.
- Advancement of nursery raising of Paddy synchronising with monsoon arrival which will help in advancement of sowing of Wheat.
- Taking plant protection matters and
- Farmers should be trained for cultivation of vegetables using modern technology.

Agricultural Marketing: The following suggestions are provided for the improvement of the marketing system in the district.

- More market link roads should be constructed on an annual basis
- Agricultural Marketing credit should be arranged immediately.
- Establishment of Agriculture Regulated Market in Barind region is urgently required. This centre is suggested to be at Gazole in Barind region so that it can easily accessed by the farmers of the blocks of the region.
- For effective National grid for Rural Godown, number of godowns in the district needs to be increased from the present number of two (Samsi and Chanchal) to four immediately. The preferred centres are English Bazar and Gazole.
- For better dissemination of price information, more market intelligence centers should be opened at different hats / markets with a view to extending them up to the Block level. The present level of three MI centers for the whole district is extremely low.
- Along with the proliferation of the market intelligence centers the effectiveness of these centers needs to be reviewed. The farmers need to be

informed of the grading system and the prevailing price of their products. For this educating the farmers about the scheme of Market Intelligence is required.

- Linking up of Agricultural Marketing officials with the weights and measures office, JCI and Agricultural Co-operative marketing societies. This will bring about an overall synchronized effort in ensuring the required change.
- Provision for distribution of Jute, wheat, Mustard and pulses seed among the trained up growers by the Directorate of Agricultural Marketing.
- The market level workers should be trained up so that they can analyse the collected data and forecast the market behaviour.
- Mango market should be produced in the producing area.

Transportation and accessibility: Roads linking the interior of the district with the market centres is of utmost necessity. Priority should be given in developing the road networking in Manikchak, Bamongola, Habibpur and Kaliachak-III blocks.

- Annual maintenance of *pucca* roads can be leased. The roads need to be constructed with long-term perspective, as many of the roads are not pliable in the rainy season.
- Bridge construction across the seasonal *nalas* and streams is to be considered.

Irrigation: Sincere efforts towards improvement of irrigation facilities in the district are required as the over all irrigated area is poor. The efforts need to be concentrated mainly in the blocks of Barind region and Kaliachak III.

- The viable mode of irrigation in the Barind region is D.T.W. that requires heavy investment. State intervention in the initial phase is required. State can built D.T.W. and lease to the farmers who in turn, over a period of five years need to repay.
- Maintenance of D.T.W. and regular monitoring of them also needs to be monitored.
- The villagers should be empowered with the monitoring and maintenance activities.

- Power supply should be made regular for D.T.W. functioning.
- State Electricity Board should consider power supply for D.T.W. as priority.
- Proper irrigation at right time(s)

Soil: For enhancement of productivity the right crop combination is necessary. To bring about right crop combination the farmer should be aware of the properties of the soil of his farmland.

- For this regular soil testing is necessary.
- The present modus of collecting soil sample needs to change by the introduction of mobile laboratories. Initially each region is to be provided with a mobile van and within next two years each block should be having a van.
- Suitable doses of lime should be used in the slightly acidic soil of Tal region and Habibpur and Old Malda blocks for better plant growth and higher productivity.

Fertiliser and Pesticide:

- The farmer should be educated regarding the right composition of NPK for individual crops.
- It should be demonstrated to the farmers.
- The number of fertiliser and pesticide outlets in the district needs to be enhanced. The concentration of such outlets in the towns is a hindrance.
- Effective monitoring of distribution of mini kit containing fertiliser and pesticide is required as these are being resold in the open market.
- Agricultural Directorate needs to monitor the effective price charged by the fertiliser and pesticide outlet and also the quality of the product being sold.
- The blocks where the organic content (OC) level are low serious attention must be paid in improving the organic matter content of soil.
- Attention needs to be paid to the management of phosphorous, as the average Phosphorous content in the district is poor. Since the farmers are using mainly Urea and DAP, this is possible.

- Management of potash should be given priority in low potash region.
- Addition of balanced doses of fertiliser, introduction of micronutrient specially Zn (Zinc) in the fertiliser schedule.
- Depending on the nutrient content of the soil the fertiliser should be used scientifically.

Seed:

- Reduction of seed rate in nursery from 30 kg per acre to 10 kg per acre in order to get good healthy seedlings.
- *Improved seed supply:* As farmers of these areas are used to use their own farm produce as seeds for both paddy and wheat year after year, the viability of these seed are very poor, which has direct negative impact on the yield. Good quality seed materials of different crops need to be arranged from IARI and should be provided to farmers on cost-to-cost basis. This approach is expected to contribute a lot in increasing the productivity of crops.
- *Seed Grower's Co-operative:* The system of arranging of seeds from outside may not continue for long. Hence inbuilt mechanism is to be developed for producing good quality seeds in the district itself. Seed Grower Co-operative needs to be formed whose members need to be trained at IARI, on seed production technology.

Agricultural Credit: Mechanisation of agriculture, usage of HYV seeds, fertiliser and pesticide is capital intensive. Agricultural credit can play a major role in enhancing the productivity by enabling the availability of these ingredients. For this

- The measures taken by Agricultural Rural development Bank to provide agricultural inputs in kind and thereby curb the misuse of loan amount is in the right direction
- Documentation required for availing the loan need to be simplified
- Monitoring the loan disbursement process is to be implemented in the stricter sense, as corruptions are prevalent.

Revolving Fund: To have sustainability in the system without assistance from outside, a revolving fund concept has to be introduced. Neighbouring villages should form groups and develop this fund. Initially for three years input material cost is to be funded by the state. These input materials need to be sold to farmers on cost-to-cost basis and with the money on realisation from farmers, revolving fund is to be created. The farmers will use this revolving fund in revolving manner for variety of developmental needs including purchase of input materials from outside as and when required without further assistance from the state.

Storage Structure: Low cost seed storage structure needs to be built in the villages. 'Kothar' built with unbaked brick with polythene lining as designed by IARI, Pusa is suggested. This structure saves the stored grains from insects and environmental hazards. Farmers need to be given training on construction of such 'kothars'.

Institutional Training: Periodical trainings need to be given to farmers on different traits at different institutes. The traits need to be vegetable cultivation technology, maintenance of agro-machinery, seed production technology etc.

Educational Tour of Progressive Farmers: In order to provide an exposure to farmers on improved crop cultivation and farm management practices, progressive farmers in batches are to be sent on educational tour to visit IARI, Agricultural universities etc.

Women Empowerment Activity: An initiative needs to be undertaken towards empowering rural women. Under this programme, two lady workers from each village can be trained on formation of Self Help Group (SHG). These SHGs may take up different entrepreneurship development activity themselves. They can be advised to take up agriculture related activities like compost making, raising of seedlings, etc.