

MECHANIZATION OF FARMING SYSTEM - SIRD'S EFFORT

The SIRD has implemented special projects for mechanization of agriculture activities in selected pockets of the state. It may be mentioned in this context that, mechanization of farming system is still in the nascent stage in the state. Younger generation hardly gets attracted to go for traditional agricultural practices. The SIRD mobilized around 25000 rural youth and helped them to go for mechanized agriculture activities through bank loan and other support under the special projects. The institute has taken up the activity in clusters to create demonstration effect and provided several dozes of training to the assisted youth for adopting the practices like sequential cropping, multiple cropping, diversification of crop, production of value added crop etc. For improved training and better exposure of these youth, the SIRD has made arrangement with Agriculture Universities of Bangalore, Kerala, Assam etc. Visible impact of the activities in the clusters have been able to attract the younger generation. A large number of youth now want to go for improved agriculture activities for their self employment.

Effort made by the institute in motivating the youth to take up agriculture activity by adopting improved methods, tools and techniques have shown very good results. The assisted youth have enhanced their level of income through increased production. This has become possible because of the adoption of the practice of sequential cropping in different parts of the state.

**Entrepreneurs Development in Agriculture
Practices with Support Services of Agro
Processing and Marketing Extension**

SGSY was introduced way back in 1999 after merging some of the ongoing rural development programmes at that time. Approach is to mobilize rural poor people into SHGs for building their capacity for taking up income generating activities. Thrust is to develop income generating activity specific clusters wherein SHGs take up the activities availing bank loan supported by 50% government subsidy. SGSY is normally implemented through DRDAs by Development Blocks. However, 15% of the yojana at the national level is kept apart



for taking up special SGSY projects through institutes and organizations to try out innovative approaches.

Government of India entrusted SIRD, Assam to implement 10 (ten) special SGSY projects, NEC project and state project during 2000 - 2001 to 2007 - 2008 in activities like improved agricultural practices, micro enterprise development in poultry and dairy, mushroom popularization and production, diversification of handloom products, agro processing, marketing etc. The SIRD developed 8006 SHGs under the projects during the period and sponsored 6355 groups to various banks after grading for credit support. 5655 groups received loan amounting to Rs. 5901.42 lakhs supported by back ended 50% government subsidy. Remaining groups managed activities mobilizing their own resources after being trained up by the institute.

The SIRD adopted cluster approach for the development of the activities taken up by the SHGs under the special SGSY projects. Activities in the clusters are mainly in agriculture and allied sectors. SHGs in selected clusters have also taken up the activity of weaving diversified handloom items. The institute

organized activity specific training programmes on skill development and management development in association with specialized institutes.

Government of India through national monitor as well as organizations like Rail India Technical and Economic Consultancy Services (RITES) have done concurrent evaluation and impact studies. All these reports highlighted the implementation of the projects as very successful and performance in the field very encouraging.

Improved agricultural activities under special SGSY.

The SIRD has implemented special projects for mechanization of agriculture activities in selected pockets of the state. It may be mentioned in this context that, mechanization of farming system is still in the nascent stage in the state. Younger generation hardly gets attracted to go for traditional agricultural practices. The SIRD mobilized around 30000 rural youth and helped them to go for mechanized agriculture activities through bank loan and other support under

the special projects. The institute has taken up the activity in clusters to create demonstration effect and provided several dozens of training to the assisted youth for adopting the practices like sequential cropping, multiple cropping, diversification of crop, production of value added crop etc. For improved training and better exposure of these youth, the SIRD has made arrangement with Agriculture Universities of Bangalore, Kerala, Assam etc. Visible impact of the activities in the clusters have been able to attract the younger generation. A large number of youth now wants to go for improved agriculture activities for their self employment.

Effort made by the institute in motivating the youth to take up agriculture activity by adopting improved methods, tools and techniques have shown very good results. The assisted youth have enhanced their level of income through increased production. This has become possible because of the adoption of the practice of sequential cropping in different parts of the state.

Demonstration effect of the special projects of farm mechanization has attracted the younger generation to go for

self employment in agriculture sector. The activity has become demand driven and the training on skill upgradation, organized by SIRD, motivated the young farmers to go for the practices of like sequential cropping, multiple cropping, crop diversification etc.

Increase in the production in the clusters wherein mechanized agriculture activities have been taken up has created opportunities for additional activities like agro processing, agricultural marketing, growing of planting materials, production of organic fertilizers etc.

Timely and full recovery of the loans taken by the SHGs have encouraged banks to provide loan for taking up improved agriculture activities.

On successful completion of two special projects on farm mechanization, Government of India entrusted SIRD, Assam to implement another special project relating to agriculture under the title Entrepreneurs Development in Agriculture Practices with Support Services of Agro Processing and Marketing Extension.

Entrepreneurs Development in Agriculture Practices with Support Services of Agro Processing and Marketing Extension

Implementation of the special project under special SGSY on Agro Product Processing and Marketing Extension is on the verge of completion.

Following activities have also been taken up under the third phase to provide support services to mechanized agricultural activities.

- ▶ Setting up of nurseries for planting materials.
- ▶ Production of organic fertilizer through development of vermiculture units.
- ▶ Agro processing through setting up of cereal processing, feed mixing and processing units to take care of agriculture produce in the clusters in post harvest phase.
- ▶ Marketing of agricultural produce in the clusters through setting up of marketing centres with required facilities including transportation facilities.

Progress At A Glance.

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| ▶ Total groups developed | 566 groups. |
| ▶ Total groups assisted | 428 groups. |
| ▶ Total families covered | 4280 families |
| ▶ Total number of members trained
for skill development | 1950 Nos. |
| ▶ Total number of Users Groups developed | 60 groups. |
| ▶ Credit mobilized | Rs. 497.84 lakhs. |

Performance in the field.

Following aspects relating to the performance of the project in the field can be highlighted.

Development of new clusters in the interior pockets.

- ▶ Unreached and uncovered areas have been included under this project for mechanization of agricultural activities. Some of these new cluster of villages have acquired power tillers

for the first time under the project. Mechanization of agricultural activities has been introduced for the first time in those remote pockets under the project. This has contributed in changing the agricultural scenario of these interior villages.

Improved practices extended to new clusters.

- ▶ With the acquiring of power tillers and other implements by the SHGs, practices like multiple cropping, crop rotation, and diversification of crop have been extended to the new clusters. Farmers have been motivated to go for increased production through adaptation of the above practices. Many unemployed youth have opted for mechanized agricultural activities for their self employment in the clusters.

Better utilization of flood free season.

- ▶ Mechanization under the project has helped the farmers in the flood prone areas to utilize the flood free time for

maximum production through fast farming with the help of the power tillers. Earlier it was not possible for the farmers to meaningfully utilize the flood free season through time consuming cultivation with bullocks.

Use of better agricultural inputs.

- ▶ Mechanization in the clusters has motivated farmers to use improved varieties of seeds for paddy and other crops. Diversification of agricultural activities has enhanced the requirement for various improved varieties of seeds and planting materials.

Better time management.

- ▶ With the introduction of power tillers and other improved implements under the project young farmers are now in a position to maintain crop calendar due to fastness of mechanized farming. They are now following crop calendar for different crops.

Interest shown in rabi crop.

- ▶ With the acquiring of power tillers by the SHGs cultivation of rabi crops has become possible in the dry lands. Timely harvesting of kharif crop through mechanization and adaptation of improved practices encouraged farmers to go for rabi crop for production of vegetable, pulses, oil seeds etc. This has also enhanced the income level of the young farmers.

Irrigation facilitated crop rotation.

- ▶ Power pumps provided to SHGs under the project have helped the farmers to undertake agricultural activities after the rainy season also. They are now in a position to take up agricultural activities in high lands with lift irrigation.

Agricultural extension through wider coverage.

- ▶ It has been observed that power tillers acquired by the SHGs are hired out to the poor farmers who have not been able to avail bank loan for purchasing a power tillers. Through this

process a large number of small holdings belonging to poor farmers have been covered by the power tillers so hired out. Mechanization process has got extended in this way to the poor farmers though they are not directly included in the project.

Enhanced income through hiring out.

- ▶ SHGs who have acquired power tillers under the project have earned additional income by hiring out power tillers to poor farmers. A SHG receives around Rs. 550.00 for tilling around 1 acre of land belonging to poor farmers. It has been assessed during the field visit that this additional income of SHGs through hiring out of the power tillers ranges to Rs. 30,000/- to Rs. 40,000/- in a season. This has become an incentive for unemployed youth to go for the activity for their self employment besides tilling their own family land.

Enhanced income leads to early recovery of loan.

- ▶ Enhanced income as mentioned above has enabled the SHGs to return their loan even before the stipulated time. This has

also encouraged the bankers to cover large number of groups under the activity.

Increased production created need for other activities in the clusters.

- ▶ Increase in production level in the clusters has led to creation of facilities like agro processing units, marketing units, units for selling agricultural inputs etc. The project has taken care of those aspects in selected clusters.

Training motivated youth to diversify agricultural activities.

- ▶ Improved training on skill development in agricultural practices has motivated youth to go for multiple cropping, crop diversification etc. They are now in a position to manage their agricultural activities by following improved package of practices for different crops.
- ▶ Quick harvest, thrashing and transportation: It has also been observed that power tillers are being used for thrashing after

the harvest. SHGs use the power tillers for thrashing their own paddy as well as paddy belonging to other farmers. The SHGs has also been earning additional income through this process. The trailers provided under the project have helped the SHGs in transporting the paddy from the field to the grainge.

Activities Taken Up for Providing Support Services Under the Project

The main activities taken up under the project for providing support services are as follows:

- a. Establishment of processing unit for management of post harvest activities in the clusters.
- b. Marketing centres for marketing of agricultural produce.
- c. Development of nurseries for planting materials.
- d. Development of vermiculture units for production of organic fertilizer.

Agro processing and Marketing Extension.

Processing of agricultural produce for value addition has become more relevant with increase in production and productivity in the clusters. Processing of agricultural produces have become more important to minimize post harvest loss due to traditional method of processing in the villages. Improved machineries and mechanism for processing agricultural produce have improved the quality of the finished products thereby adding value to the products.

Agro processing units having multiple facilities for processing paddy, pulses, cereals are now a days available and can be installed in the growth centres of the villages surrounded by agricultural pockets.

Diversification of income generating activities is very much essential to create avenues for self employment. Avenues will have to be explored in all the sector e.g. primary, secondary and tertiary. Within the agricultural sector that means primary sector, efforts

are on to diversify activities under the sector to accommodate more unemployed people.

Agro processing promises extraordinary potential to boost the Assam's economy. It also saves the produce from undergoing post-harvest losses.

There cannot be commerce unless there are markets. Commercialization of agriculture requires establishing markets and trading centres with adequate storage facilities close to production centres. Without commerce value addition will not take place and low-incomes, poverty and unemployment would be the end result. Indeed the low productivity levels of irrigated agriculture can be attributed to the absence of commercial opportunities that markets and trading centres provides

It is very much essential that farmers get easy access to marketing facilities for their produce. Protecting the interest of the farmers so far as marketing of their produce is concerned should be taken care of. It has been observed that, due to the lack of marketing facilities in the clusters already developed the farmers

have not been able to get sufficient return in terms of money for their labour.

Agro Processing and Marketing Centres: Processing units have been set up in different clusters to facilitate processing of agricultural produce. This support service will definitely add value to the agricultural produce thereby encouraging the farmers to take up more activities in their field. Users Groups of 5 youth / farmers are running the units.

Nursery for planting materials.

Despite enormous potential and ample scope for diversification of horticulture, the production and productivity of horticultural crops in the state is reportedly very low. One of the major inherent constraints arresting horticultural development is lack of superior quality seeds and planting materials of improved varieties, hybrids, clones etc.

Users Groups have taken keen interest in raising nurseries for production of planting materials. As most of the horticulture

planting materials come from outside the state, these nurseries will have good business.

Vermiculture units.

The main occupation of the people of Assam is agriculture. 80% of the population's livelihood depends on agriculture. The production and productivity of agriculture depend on soil fertility. The soil of Assam is mainly acidic. In such soil, decomposition of organic matter decreases which reduces the mineralization of organic nitrogen, phosphorus, potassium, sulphur etc. and also it leads to leaching off the essential plant nutrients. Hence it hampers the production and productivity of the crops. Therefore, it is very much important to applying of plant nutrients externally to the crops for maximum production. Source of such plants nutrients of two types: Inorganic (chemical fertilizers) and Organic. The chemical fertilizer has certain limitations. The present trend of agriculture is organic farming. It is nothing but using of organic substances for production of agricultural commodities. One of the methods of production of such organic manures is Vermicompost.

Users Groups have developed vermiculture units under the project for production of organic fertiliser. Increasing popularity of organic fertiliser has encouraged them to go for the production of this activity.

Training.

There have been two major components of the training programmes.

- a. Upgradation of technical skill.
- b. Development of managerial skill.

Training programmes organised in association with Assam Agricultural University in different dozes.

Training have been organised at three levels.

- a. SIRD at State level.
- b. Extension Centres of SIRD - Zonal Level.
- c. Field level.

Technical support in the smooth implementation of the project have been taken from Assam Agriculture University, its colleges, Research Centres and other such specialized institutes situated in the state. This support have been received in a regular manner in the implementation of the project.

Project Expert Committee: Expertise of the technical members of the project expert committee of the institute have been taken regularly. The members of the committee are experts in different discipline of agricultural science and allied activities.

Intensive training for management of support services: Activity specific intensive training have been provided to the Users Groups for the management of the infrastructure created for providing support services to the modern agricultural activities taken up by SHGs / Users Groups.

Exposure visits of the entrepreneurs and farmers. Exposure visits have been organized for the farmers to **agriculturally** advanced states.

