

# Institutionalization of Farm Mechanization

## Innovative Promotional Methods for Successful Implementation in Rural Areas and Policy Support

Soil moisture and nutrient availability are major limiting factors for successful crop production in rainfed areas. Erratic rainfall pattern often allows very short period of time (1-3 days) for sowing of crops. Given this condition, in most rainfed areas, farmers often fail to complete sowings in time. This is one of the main reasons for poor production and resultant food insecurity in the households of rural poor. Unless there is ample time it is rarely possible to complete sowings using conventional animal drawn tools. Placement of seed and fertilizer in moist zone during sowing is of critical importance to seed germination and crop establishment. It takes great amount of skills and experience for proper placement of seed while using a traditional sowing implement.

Due to frequent droughts the incidence of migration of labour to urban areas is very high in semi-arid areas resulting in labour shortage specially during sowing operations. With urbanization steadily increasing this trend is not only going to continue but also to bring in severe shortage of skilled labour in agriculture sector.

Another trend is that the traditional source of farm power, draught animal, is fast disappearing. Studies have shown that the number of bullocks is reducing at a rate as fast as @20% annum in most rainfed areas. This is a fall out of frequent droughts that results in acute shortage of fodder and ever increasing cost of maintenance. All these odds compel one thing: mechanization. Hence, mechanization of small farms is seen as panacea for all the banes of labour and farm power scarcity.

### The Process

Under the DFID-NRSP Project R8192 “Enabling Rural Poor For Better Livelihood through Improved Natural Resource Management in SAT India” being implemented in Mahaboobnagar and Anantapur district of Andhra Pradesh and Tumkur district in Karnataka, a PRA exercise was conducted in the cluster of villages of the project for identifying the cultivators needs for tools and implements for various agricultural operations. The advantages and constraints were discussed very vividly with the villagers. The most important issue that was raised was the affordability by small farmers and justification of possessing them based on the size of the farms. This was mainly due to the misconception that mechanization means tractorisation. We have shown and demonstrated to the cultivators some cheap and affordable improved implements for sowing, weeding etc., which will really help the cultivators in mechanization of farm operations on smallholdings.



Plough - Planter

The *Salaha Samithi* (village advisory committee) helped prepare a priority list of operations that needed immediate mechanization. Based on this improved power tools/implements like seed planters, weeding tools, harvesting machines, chaff cutters and other need-based tools are being introduced in the project villages. It has also been shown that the cost of operation can be reduced from 15-25% besides cutting down on time and drudgery even on small holdings. This has sent a clear message that operations on small farms can also be mechanized as well with some beneficial effects. This message will be further researched and validated during forthcoming (*kharif* 2004) rainy season



*Inauguration of custom hiring centre*

unemployed youth of the villages who have been trained by the Project scientists in handling and maintenance of the set of implements. This is also providing an avocation to the unemployed youth of the villages who otherwise would have migrated out of their villages. Custom hiring centres (CHCs) thus would become the agents of change in rural scenario by enhancing use efficiency of water, and inputs like seed and fertilizer. CHCs can also be hubs for employment generation through enhancing entrepreneurship in rural areas and bringing about desired change.

In order to address the affordability issue, the Project introduced the concept of custom hiring of implements. Custom hiring centres were started in Chowderpalli, a village in Mahabubnagar cluster with an arrangement of hiring out of required implement for a required period of time to a farm household. These centres are being managed by literate



*Women using groundnut stripper*

## Small farm Mechanisation: A long-term policy perspective

Traditional sources of farm power are on the decline and will continue to do so at a faster rate than ever before. In an economy where agriculture and allied enterprises are the driving force for other sectors, there needs to be a long-term policy for farm energy. And this policy needs to take a serious view of the energy crisis in the small and marginal farming sector. With nearly 80% of the holdings falling in this sector, energy crisis is going to be the most important production-limiting factor as urbanization and out migration are going on unabated. Competing energy demand from non-farm sector is also of great concern in terms of meeting the ever-growing farm energy needs. Rural India is already power-starved. There are long hours of load shedding and electric power alone cannot meet rural energy demand.

Time-sharing of the implements through custom hiring seems to be a prudent solution in the present scenario and this concept needs to be institutionalised in all the donor funded and state funded watershed development projects, as small farm mechanization cannot be addressed in isolation of other issues of natural resource management. Introduction of improved tools/implements and promoting custom hiring centres require not only huge initial investments but also a large number of trained manpower in the operation and maintenance of agricultural machines. Training and capacity building of local youth, and traditional and village based smiths is another issue that needs attention. This is not only desirable but very necessary to integrate the indigenous talent in the huge rural market that is going to open up more due to compulsions of time. Cost subsidization, promotion and marketing of implements, formalizing NGO participation and supporting industry to supply quality tools, gearing of financial institutions for extending credit facility to manufacturers and buyers of machinery are also equally important issues that need to be addressed.



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