




RESEARCH
PROGRAM ON
Dryland Systems

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Implementation report on “Participatory farm mechanization for small farmers”

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Small farm mechanization

To promote economic ways of farm operations, enhance climate adaptation and reduce drudgery particularly of women, it was planned to establish two custom hiring centers in target villages (one each at Mannur and Balaganur villages of Sindagi taluka of Vijayapura district). After participatory process of consultation with the farmers, list of farm implements/equipment has been prepared. The institutional arrangements as cooperative/ business are being explored with the community. Name of the equipment, quantity, tentative cost, amount, specification, justification and progress of work is indicated in Table 1 and 2.

Table 1. Equipment / implements being purchased for Farm Machinery Custom Hire Service Centre under CRP-DS at Mannur village

Sl. No.	Particulars	Quantity (Nos.)	Specification	Justification	Progress of work**
1.	Power operated weeder (<i>Roto tiller</i>)	1	4 stroke petrol Honda engine, Power 163CC, Rotor 3+3 blades, 80 cm, gear box forward speed.	The village is covered by about 10 to 20 % orchards; roto tillers are required for weeding.	I
2.	Knapsack Power sprayer (<i>Honda engine</i>)	3	Knapsack motorized sprayer, 4 stroke engine, 25 CC with brass pump, 23 litre capacity, working pressure- 35 kg/cm ² discharge 7.4 litre/m, 18 mm plunger.	For plant protection sprays, using power sprayers more area can be covered.	I
3.	Battery operated sprayer	2	15 litre capacity, 12 V-7AH, Dry battery working pressure- 5-6 kg/cm ² , 3 nozzle	Pigeon pea and chickpea are the major crops of the area and for pest control sprayers are used.	I
4.	Bullock drawn adjustable Iron hoe (30, 45 and 60 cm)	2	Bullock drawn (heavy) iron hoe (adjustable 30, 45 and 60 cm) (entire iron body)	Improved equipment for inter-cultivation	I
5.	Groundnut decorticator	1	Hand operated, 20 kg capacity	For groundnut shelling	I

6.	Tractor drawn hoe	2	30,45 and 60 cm adjustable three row hoe	For inter-cultivation operations in field crops	II
7.	Cycle drawn seed drill cum weeder	2	Cycle seed drill cum weeder with adjustments (manual)	For weeding and for sowing sorghum/chickpea as a relay crop in onion	II
8.	Cycle weeder	2	Cycle weeder with adjustments (manual)	For weeding	II
9.	Tractor drawn furrow maker	1	Standard tractor drawn furrow maker (2 furrows, adjustable)	For making the conservation furrow in the field crops and for making the BBFs	II
10	Sara yantra	1	Iron (heavy) width 1-1.5 m	For making the border strips	II
11	Improved sickles	10	Standard	For women drudgery reduction	II
12	Tractor drawn bund former	1	50-60 cm bund bottom width (single bund maker)	For making the compartment bunds.	III
13	CRIDA seed cum fertilizer drill	1	Bullock drawn	For sowing and fertilizer application	III

** I. Requisition letter has been given to Estate Officer; II. Purchasing from local firm, Quotations have been called; III. Supply order has been sent.

Table 2. Equipment/ implements to be purchased for Farm Machinery Custom Hire Service Centre under CRP-DS at Balaganur village

Sl. No.	Particulars	Quantity (Nos.)	Specification	Justification	Progress of work**
1.	Power operated weeder (<i>Roto tiller</i>)	1	4 stroke petrol Honda engine, Power 163CC, Rotor 3+3 blades, 80 cm, Gear box forward speed.	The village is covered by about 10 to 20 % orchards; roto tillers are required for weeding.	I
2.	Knapsack Power sprayer (<i>Honda engine</i>)	4	Knapsack motorized sprayer, 4 stroke engine, 25 CC with brass pump, 23 litre capacity, working pressure- 35 kg/cm ² discharge 7.4 litre/m, 18 mm	For plant protection sprays, using power sprayers more area can be covered.	I

			plunger.		
3.	Battery operated sprayer	2	15 litre capacity, 12 V-7AH, Dry battery working pressure- 5-6 kg/cm ² , 3 nozzle wide	Pigeonpea and chickpea are the major crops of the area and for pest control sprayers are required.	I
4.	Tractor operated slasher	1	PTO operated , 800-1000 rpm 6 feet sugarcane rotary slasher	For sugarcane trash slashing.	I
5.	Tractor drawn furrow maker (Ridger)	2	Standard tractor drawn furrow maker (2 furrows, adjustable)	For making conservation furrow in the field crops, sugar cane plantation and for making the BBFs.	I
6.	Power cum hand operated chaff cutter	1	Power: 1-1.5 H.P. single phase electric motor; output: 200-300 kg/hr	For chopping the green and dry fodder to reduce wastage.	I
7.	Cycle weeder	4	Cycle weeder with adjustments (manual)	For weeding	II
8.	Tractor drawn hoe	2	60 and 90 cm adjustable two row hoe	For inter-cultivation operation in the field crops (Pigeon pea)	II
9.	Tractor drawn bund former	1	50-60 cm bund bottom width (single bund maker)	For making compartment bunds	III
10.	CRIDA seed cum fertilizer drill	1	Bullock drawn	For sowing and fertilizer application	III

** I. Requisition letter has been given; II. Purchasing from local firm, Quotations have been called.

III. Supply order has been sent.



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Dryland Systems engages in integrated agricultural systems research to address key socioeconomic and biophysical constraints that affect food security, equitable and sustainable land and natural resource management, and the livelihoods of poor and marginalized dryland communities. The program unifies eight CGIAR Centers and uses unique partnership platforms to bind together scientific research results with the skills and capacities of national agricultural research systems (NARS), advanced research institutes (ARIs), non-governmental and civil society organizations, the private sector, and other actors to test and develop practical innovative solutions for rural dryland communities.

The program is led by the International Center for Agricultural Research in the Dry Areas (ICARDA), a member of the CGIAR Consortium. CGIAR is a global agriculture research partnership for a food secure future.

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