

*Ukama Ustawi (UU) Regional Initiative*

**Service Provider Model for Smallholder Mechanization in Zambia**

Smallholder agricultural mechanization is key to increasing land and labour productivity, reducing drudgery, and attracting more youth to agriculture in the southern Africa. Learning from the 30 years of experience in Bangladesh and other developing countries, CIMMYT has adapted a ‘**Service Provider Model**’ for smallholder mechanization in southern Africa. A Service Provider (or SP) is a farmer or any individual, with or without any cultivable land, in the farming community who owns a machine or a set of machines which s/he uses in own farm (if any) and/provide mechanization services to neighbouring farmers (often 50–100 farmers) for fees. For sustainable uptake of mechanization, it is important not to focus only on introducing the appropriate scale machinery, but also to implement a full mechanization package solution that includes: i) essential trainings and capacity building of the service providers, machinery operators, local mechanics, and manufacturers/suppliers), and ii) and establishing a after sale service and spare parts supply network. This SP model and the equipment involved follow the philosophy of no free hand outs, farming as a year-round business, and climate-smart agriculture.

**What equipment is needed for the starter package?**

- A 14 HP **Two-wheel tractor** to drive ancillary equipment (e.g. a ripper, a trailer, etc.) and to power other equipment options (sheller/thresher, mower, water pump, etc.).
- A 1.0 t **Trailer** that enables Service Providers (SPs) to provide transport services in the rural areas.
- A **Double-row ripper** for climate smart services land preparation services
- A 5 m **Boom sprayer** for spraying herbicides and agrochemicals (200 l capacity)
- A **multi-crop thresher and/ sheller** to provide shelling and threshing services



a) The trailer attached to a 2-wheel tractor



b) The double row-ripper in operation



c) The boom sprayer (5 m, 200 l)



d) The multi-crop thresher

**Figure 1 The starter pack machinery for the service providers**

### How does the Service Provider Model work?

- Awareness meetings are conducted to educate farmers on the importance and use of the machinery to intensify cropping and reduce drudgery and costs, SP selection criteria, and the business and financial models. Live (practical) demonstrations of the machinery are arranged whenever possible depending on the season and accessibility. Live demonstrations of the machinery are conducted in these awareness meetings.
- Interested farmers register their interests as potential SPs (pSPs) who are then interviewed and shortlisted based on their education, trustworthiness in the society, and potential ability to provide home to home mechanization services (round the year) for fees;
- To show their interest and commitment, the pSPs are required to raise commitment fees equivalent to 30% of the price of the machinery
- This enables them to get access to the machinery starter pack, which they must pay back in monthly installments in two years (includes a grace period of four months)
- Youths and women are given priority
- To ensure that payments are made, a lease-to-own contract is signed between the SP and the providers of machinery and payback is carefully monitored
- After the value of the equipment set is paid off, ownership of the asset is transferred from CIMMYT to the SP
- At or before receiving of the machinery, the SPs receive a 5-day long basic technical (covering machinery operation, troubleshooting, and maintenance) and business development training on for mechanization services. The basic training is followed by refresher courses on specific elements of the equipment during the project period.
- A network of service providers, local mechanics, spare parts suppliers, and farmers is established for smooth operation.

### Key Benefits for this Intervention Over Conventional Practices

- Service providers can earn incomes round the year through provision of mechanized ripping, transportation, spraying, shelling and threshing services to about 50–100 farmers annually
- The farmers (users) can reduce their drudgery, labour, time, and cost for ripping compared to animal drawn rippers
- Reduced time (takes about 2 h/ha) and drudgery (23 h/ha using a knapsack sprayer)
- Reduced time for shelling/threshing (8–10 t of maize/day by sheller vs of 0.16 t/day manually)

### More information

Dr M A Matin, Mechanization Lead (Southern Africa), International Maize and Wheat Improvement Center (CIMMYT), Southern Africa Regional Office, 12.5 km Peg, New Mazowe Road, P.O. Box MP 163, Mount Pleasant, Harare, Zimbabwe. Email: [a.matin@cgiar.org](mailto:a.matin@cgiar.org)