

RRI type 2-wheel Tractor with trailer



Application Potential	Rural transport as part of a complete package including a maize sheller powered by the tractor engine and a mouldboard plow for soil tillage. It can also provide power to an irrigation pump.
Capacity	Carries 5-8 bags (60 kg/bag) of cob maize and two passengers or 500 kg of bagged shelled maize.
Target client	Small- and medium scale commercial farmers
Advantage	Push and pull type, Easy loading and unloading, Lightweight and balance load for easy maneuver, Carrying bucket can hold water
Disadvantage	Is not recommended for highway transport High investment cost
Repair and Maintenance	Regular engine check-up and greasing of bolts and shafts.
Estimated cost	Tractor with 5.5 hp Petrol engine: US\$ 1500 Trailer alone: US\$ 400 Mouldboard plow: US\$ 165
Market potential / Status	Several units have been built and sold by a local workshop in Kamapala and demonstrated throughout the country. Mid 2000 the equipment was

	demonstrated and tested with wheat growers at Mount Elgon (Kapchorwa district) to assist them with harvesting and threshing activities
Information provided by:	Post-Harvest Handling & Storage Project (PHHS)
Manufactured by:	JBT Engineering, Mr. Baljit Singh, Makere Road, P.O. Box 11091, Kampala, Phone: (256)-77- 502709/532861

Jack Press



Purpose	Multi-Purpose Batch type press for commercial scale operation, Dewatering Cassava pulp for flour, Extraction of all kind of oil products
Capacity	Up to 100 Kg of wet product per batch (10-15 min/batch)
Target client	Small-scale commercial user
Advantage	Easier to operate, Movable as a wheel-unit can be attached for transporting it to the field Greater sideways stability due to improved design, Provision to transport the press easy with wheels.
Disadvantage	Relatively heavy construction, Durability of hydraulic jack; seals proved to be weak and therefore alternative pressing defice is required (e.g. "Tanyaika" Jack used for lorries or screw)
Repair and Maintenance	Washing
Cost	Frame with wooden grids: 150-180US\$ (Uganda)
Market potential / Status	Currently in use various processing centres in Uganda
Information provided by	Post-harvest Group ESARC/NPHP, Uganda

Manual Drum Grater



Purpose	Grating for detoxification bitter cassava & flour production
Output	15-25 kg/hr
Target client	Household processing
Advantage	Simple construction, durable, ease of action
Disadvantage	Slow, tedious
Cost	US\$ 40
Market potential / Status	None, (design closed)
Information provided by	Post-harvest Group ESARC/PH, Uganda

Manual Slicer / Chipper

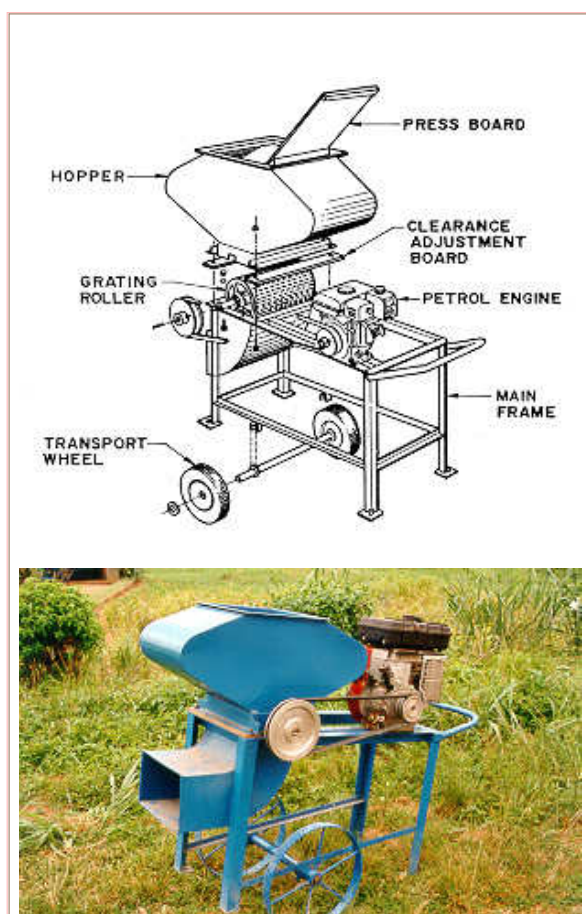


Purpose	Slicing root and tuber crops; Cassava, Yam, Potato, Sweet Potato, Ginger, and also Plantain
Output	Up to 200 Kg per hour
Target client	Household & Small-scale commercial processing
Advantage	Cheaper, lighter, mobile, range of discs, possibility to adjust space between hopper and disc, can be constructed with 2 discs (slicing and chipping) Simple to operate and much higher capacity than cutting by hand
Disadvantage	Needs support frame or can be mounted on table/stand
Cost	US\$ 45-\$ 60 (without frame)
Market potential / Status	Varoious companies in Uganda and Tanzania have adopted this model (both as slicer and/or chipper) and manufacture now the model on commerial level. Chipping discs are currently manufactured by Tonet in Kampala (7 US\$/disc)
Information provided by	Post-harvest Group ESARC/PH, Uganda
Pictures of different models of various manufactures	SAIMMCO Soroti, Uganda (blue model with one metal disc with 2 knive blades) Tonet, Kampala, Uganda (chipper on stand with fly wheel) (older model slicer) J.B.T.-Mr. Baljit Singh, Kampala, Uganda (tabel model) Reliable Motor Works Service Ltd, Mr. Lucas Kimosola, Dar es Salaam, Tanzania

**Mushi, Kariakoo, Dar es Salaam,
Tanzania**
([in action](#)) ([front view](#))

**Latest model developed by IITA PEU
Nigeria**
([semi-finished model](#)) ([front side of
wheel](#))

MK 1 Power Grater



Purpose	Grating Cassava Mashing fruit and vegetables for juice extraction
Output	Grating: up to 1.0 ton per hour
Power drive	3.5 Hp Petrol Engine
Fuel Consumption	1.2 lit per hour
Target client	Small- and Medium scale commercial processors
Advantage	Oval-shaped hopper reduces spillage, & increase Cassava/Rasper contact, High capacity, minimum power requirement, Uniform sizes of pulp, Fineness of grating adjustable to suit requirments, Easy collection of grated pulp, Lightweight for mobility
Disadvantage	Need a press to make the technology complete
Cost	Petrol engine (250-400 \$) and machine (200-250 \$)
Repair and Maintenance	Rasper replacement every 1000 hours of use, Washing and greasing, Regular engine check-up
Market potential / Status	n.a.

/ Status	
Information provided by	Post-harvest Engineering Unit, IITA, Nigeria
Illustrations	Technical Drawing 1 Technical Drawing 2 Technical Drawing 3
Picture	Processing at Namulonge, Uganda
