Small-scale timber stand management techniques: a case study of woodlots in Isangati, Tanzania

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Farm System Diagram – Isangati, Tanzania
This farm system diagram outline follows the methods described in Beets (1990).

**Physical and Bio Factors**
- **Climate**: Avg. rainfall is 1,100-2,700mm. Temperate Climate. Avg. temps are: Jan-May 12-21°C, Jun-Aug 12-19°C, Sept-Dec 12-21°C. Large rain season is Mar-May and small rain season Nov-Jan.
- **Soil**: Fertile, of volcanic origin, often molic andisols. Topso: 2,000m, steep slopes prevent mechanization and require erosion control work. High elevation = high rainfall.
- **Weeds**: Weed each crop with hand-hoe 2 times before harvest. Harvest crops twice per year.
- **Pests and Diseases**: Insecticide is used and a spray is used for many crops to protect them from the cold.

**Socio-Cult and Socio-Econ**
- **Tenure**: Children get land handed down to them from their parents once they are old enough or get married.
- **Land Use**: Agriculture, Forestry, Aquaculture (2 man-made ponds), Apiculture.
- **Migration**: Young people moving to urban areas.
- **Motivation**: Land is obtainable, so the more farmer’s work, the more crops they can use for home consumption or sales.
- **Attitude/Goals**: Land is obtained, so the more farmer’s work, the more the farmer’s income.

**External Political and Institutional Factors**
- **Market**: Nkoka town is 30km from the village. Market day is every Saturday in the village. People from town come to buy/sell goods and people from nearby villages come to buy/sell surplus goods.
- **Labor Demand and Supply- Seasonality**: Low labor demand Aug-Sept, High labor demand Apr-July.

**Family Composition**: Father, mother, 3 boys, and 3 girls
Health and Education - Health dispensary in the village. Most villagers only finish primary school.

**Family Labor - On Farm**
- **Farm**: Weeding, planting, harvesting, spraying, carrying manure to farm.
- **Capital**: Axes, hoes, machetes

**Family Labor - Off Farm**
- **Women**: Cook, wash clothes, gather fuelwood, fetch water, take care of children, process agricultural products.
- **Men**: Tend to livestock, and handle business negotiations (sales of crops/timber)

**Household**
- **Food**: Maize, Beans, Potato, Green Pea, Cabbage, Cash, Pyrethrin
- **Crop Residues**: Damaged vegetables
- **Fodder-Grasses**: banana plants, leaves, crop waste
- **Livestock**: Avg. Number of Animals: Chickens - 5, Cattle - 2, Goats - 2, Pigs - 1
- **Manure**: From stall fed livestock. Use cut and carry system to feed animals. Fill large bags with manure and carry to farm.
- **Household waste**: Market

**Credit Facilities**: There is a village group consisting of almost 30 people which is set up for people to borrow money. People outside of the group cannot.