

*A Case Study:*

## Fingermillet harvesting and threshing in Karnataka

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### ABSTRACT

Finger millet also known as Ragi or Mandwa is the most important small millet food and fodder crop. It is extensively cultivated in Asian countries like India, Ceylon, Malaysia, China, Nepal and Japan and African countries. It is widely grown in Karnataka, Tamil Nadu, Andhra Pradesh, Orissa, Bihar, Gujarat and Maharashtra and in the hilly regions of Uttar Pradesh, Sikkim and Himachal Pradesh. Karnataka is a major finger millet producing state in India covering about 43 per cent area of finger millet cultivation and producing nearly 49 per cent of the total food grain production (Anonymous, 2010). This crop is grown both in dryland as well as in irrigated conditions where irrigation facilities are available and it constitute only 5 per cent area of the finger millet grown in Karnataka. Whereas the rain fed finger millet is about 95 per cent and usually it is grown in *Kharif* and irrigated finger millet in *Rabi* or summer. Finger millet is often intercropped with legumes if it is grown under rain fed condition. Finger millet has outstanding properties as a subsistence food crop. Its small seeds can be stored safely for many years without insect damage, which makes it a traditional component of farmers' risk avoidance strategies in drought-prone regions of Eastern Africa and South Asia. Because the seed can be stored for decades (some say 50 years), it is highly valued as a reserve against famines. Finger millet is especially valuable as it contains the amino acid methionine, which is lacking in the diets of hundreds of millions of the poor who live on starchy staples such as cassava, plantain, polished rice, or maize meal. Finger millet can be ground and cooked into cakes, puddings or porridge. The grain is made into a fermented drink (or beer) in Nepal and in many parts of Africa. The straw from finger millet is used as animal fodder

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**I**t is estimated that harvesting and threshing of crops consume about one third of the total requirement of the production system (Ojha and Devnani 1987) The energy analysis made in the dry track of Karnataka indicated that cultivation of irrigated finger millet required significantly higher energy than cultivation of rain fed finger millet. Seedbed preparation, weeding, irrigation and harvesting were found to be most energy intensive operations. In rain fed cultivation seedbed preparation, weeding and intercultivation, harvest and post harvest operations were found to be most energy intensive operations. Seed bed preparation in rain fed crop consumed maximum energy (40.50 %) followed by harvest and post harvest operations (24.36 %). This was due to the fact that more human power was used in these operations compared to other operations. Harvest and post harvest operations were the second most energy consuming operations for both rain fed and irrigated crops, since in traditional agriculture, more human power was used for these operations (Chowdegowda *et al.*, 2010).

Timely harvest of the crop is vital to achieve better quality and higher yield. The shortage of labour during

harvesting season and vagaries of the weather cause grater losses to the farmers. Finger millet is harvested either manually by using sickle if it is intercropped with legumes or by reaper windrower if it is grown as single crop. In irrigated crop the ear heads will be harvested first and then the straw after few days. After harvest it is dried in the field for 3-4 days and then stacked for at least one month in the field itself and then transported to threshing yards, which fosters a fermentation whose heat and hydrolysis makes the seeds easier to thresh. Finger millet is threshed either by beating the crop manually with stick or by treading in case of small farmers, large scale threshing is by passing bullock stone rollers or a tractor with or without stone roller over the crop spread uniformly on the threshing yard. Spreading of the finger millet crop on the tar road and waiting for transport vehicles to pass through is also a common practice followed by the farmers near the main roads for threshing finger millet. After threshing it is winnowed and cleaned. Now a day's finger millet is also threshed by multicrop threshers.

Different methods of finger millet harvesting, threshing, their efficiency, recovery percentage,