

TERMS OF REFERENCE

For
Feasibility Study on
Market potential of Minor Millets (Kodo-Kutki) from Madhya Pradesh

INTRODUCTION

The proposed study covers the targeted jurisdiction of 10 districts of Madhya Pradesh wherein area under Minor Millets (kodo-Kutki) production is more than 10000 ha. These districts are Mandala, Chhindwara, Dindori, Singroli, Seoni, Umaria, Shahdol, Anuppur, Balaghat & Jabalpur. Minor millets have been grown here by most of the tribal communities without use of chemical fertilizer.

The Marketing of minor millets by the tribal communities is through local traders owing to which these farmers does not get justified price for their produce.

The study is being made to cover the following purposes :

- 1- To identify and describe ways and means to enhance production & productivity of minor millets.
- 2- To identify and describe ways and means to ensure organic production of minor millets and its certification.
- 3- To identify and describe ways and means of cost effective collection and storage of minor millets.
- 4- To identify and describe ways and means of cost effective Processing mechanism.
- 5- To identify and describe ways and means to develop domestic market for minor millets.
- 6- To identify and describe ways and means to develop global market for minor millets.
- 7- To identify and describe ways and means to develop Buy-back arrangement and contract farming of minor millets.
- 8- To identify and describe ways and means to utilize present agricultural subsidy programs and policies to support farmers involve in production of minor millets.

OBJECTIVE OF THE STUDY

The main objective of the study is to examine the existing market demand and potential market demand for Minor millets grown traditionally in aforesaid district of Madhya Pradesh. The study will also examine willingness and ability of the farmer to adopt global standard to meet out required quality standards of Minor Millets.

More specifically the Study will :

- Examine agricultural practices within the region and assess the likelihood of practices in some areas changing from intensive to extensive cropping in near future.
- Conduct a market demand survey for minor millets, regarding their product preferences for organic minor millets, location preferences for product distribution and willingness and ability to pay justified prices.
- Conduct conceptual design of production of minor millets, options from labor-intensive to mechanized methods of production, together with budgetary cost analysis for Minor Millets
- Review existing agricultural subsidy programs and policies to support farmers;
- Develop recommendations for improving minor millet's demand;
- Project the overall demand for minor millets;
- Identify appropriate distribution locations, buyer's and product requirement (quality, additives, packaging) for marketing.
- Buy-back arrangement for minor millets through contract farming.
- Develop a pricing policy which could lead to revenues which cover the cost of minor millets.

The specific issues to be covered are :

- Market overview (products, world trade, existing and potential markets, requirements of quality, etc.).
- Overview of the Indian scenario, including of Madhya Pradesh.
- Backward linkages
- For export market driven production.
- Pre and post-harvest practices, R&D requirements, etc.)
- Analysis of the infrastructure requirement.
- Strategies for market penetration & niche marketing.
- Constraints and support required.

SCOPE OF THE STUDY

The study shall entail the following specific tasks :

Task : 1 Define Activities for production of Minor Millets

The Consultant shall consult agricultural references and agricultural experts in the study area, for an area of at least 100 km from the district being investigated, and determine the number of hectares of minor millets crops. The Consultant shall define the soils in the study area, describing

the characteristics of the soils and their need for organic and nutrient amendment. A transparent map of soils shall be prepared to overlay the crop map.

The Consultant shall define the irrigation practices in the study area, defining the extent of irrigation by various methods (e.g. canal, spray, drip) and the adequacy of irrigation water resources. A transparent map of irrigation practices shall be prepared to overlay the crop map.

The Consultant shall define the average farm sizes in the study area. A transparent map of average farm sizes shall be prepared to overlay the crop map.

Task 2 : Assess Gross and Net Revenues from production of Minor Millets

Discuss with agricultural experts and farmers their views of how cropping practices are likely to change so as to enhance production of minor millets. Review global pricing trends, market competition, and local historic pricing trends in order to assess gross revenues/hectare likely over the next 10 years in the study area. Assess the average expenditures/hectare for seed, planting, soil amendment, fertilization, irrigation, harvesting, etc. and project expenditures over the next 10 years based on relevant national and regional inflationary forecasts.

Task 3: Define Crop Needs for Organic Soil amendment

Examine current application in tones/hectare of organic soil amendment for minor millets crop and soils in the study area. Examine global literature for recommended organic soil amendment in tones/hectare. For minor millets crop in the study area, recommend a range of soil amendment application raters in tones/hectare of manure versus compost (high quality) and compost (low quality).

Task 4 : Determine availability and Price of Alternative Organic Soil Amendments.

Quantify the availability of alternative organic soil amendments so compost (including animal and poultry manure, peat, straw bedding mixed with manure, and agricultural residues which have been composted) which are produced or readily available within the study area. Determine the quality and reliability of these alternative organic soil amendments. Assess whether these alternative organic soil amendments are likely to continue to be produced in the future in accordance with historic production trends. Determine the existing costs and prices, as well as the

historic pricing trends for these alternative organic soil amendments. Based on this information and the input of agricultural experts from the region, determine the likely availability and price of these alternatives over the next 10 years. Assess whether there is an existing or projected shortfall between the supply of organic soil amendments and crop needs.

Task 5 : Develop Conceptual Designs of Several Composting Technology Options.

Composting is a natural process, whereby micro-organisms already present within municipal waste have their environment enhanced (i.e. waste surface area to particle size optimized; and oxygen, moisture, pH and nutrients levels optimized) so that they can readily biodegrade the organic components of the waste. To speed up the process, the following activities may be involved; sorting, grinding, mixing, screening, aeration, nutrient addition, pH control, moisture control, piling to promote head build up, turning, and maturation. The more mechanised the process, the faster it might take place. However, more mechanization also tends to mean more mixing and pulverization of glass, soil, ceramics, plastic, etc., - and thus, possibly, a decrease in the final quality of compost.

Task 6 : Determine Land Requirements and Capital and Recurrent Costs of the Composting Options.

The Consultant shall design at least three levels of technology, from low mechanization and low energy systems upto high mechanization and energy systems and recommend the optimum size plant for economies-of-scale and reliability. The costs of these various levels of technology shall be assessed, in terms of capital, labor, materials and energy costs, to determine which system would be most likely to provide the lowest cost/tonne of composting in this study area.

EXPECTED OUTPUTS

The consultant shall produce the following:

- Compilation of data and information, feasibility study reports, maps and transparency overlays depicting all of the information required in the above Tasks.
- Environmental impact reports for purposes of permit clearance.
- (Optional) Tender documents with bid specifications, bills of quantities, and basic procurement requirements.

SCHEDULE

The Consultant shall provide monthly progress reports summarizing efforts underway to address the above scope of work, outlining problems and constraints encountered, and presenting issues for client decision-making, as needed.

Five copies of the initial draft report covering all work efforts described above shall be submitted 2 months after the notice to proceed with the above scope of work. Five copies of the final draft report responding to comments shall be submitted 4 months after the notice to proceed with the above scope of work, assuming the client shall provide comments within 2 weeks after receiving the initial draft report. Pending exercise of the option, five copies of the final design, bid specifications, bills of quantities, and procurement tender documents, as well as one full set of reproducible original drawings and text.

TEAM

The agency/ consultant shall have strong team for conducting study. Team shall include following specialized / qualified persons :-

- 1- At least one agricultural specialist with agriculture economic with over 15 years of related experience.
- 2- At least one MBA on market assessment and pricing policy & foreign trade with over 5 years of related experience.
- 3- At least one individual, familiar with composting technology.

Terms of Payment

- 1- 50% payment towards project will be made on submission of draft project report.
- 2- 30% payment will be made on submission of final report.
- 3- 20% payment will be made after submission of Pending exercise of the option mentioned in schedule as above.