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# **Constraints Faced by Millet Farmers and Millets Processing Units in Madurai District**

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## **Authors' contributions**

*This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.*

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## **ABSTRACT**

Tamil Nadu has four per cent of the land area and three per cent of the water resources at National level. 92 per cent of total land holdings in Tamil Nadu belong to small and marginal farmers. Millets is one of the oldest foods known to mankind. Millets hold enormous hope for food and nutritional security. It is essential to know the constraints faced by millet growers in the millet cultivation and utilizing millet processing units. In view of the International Year of Millets, this study will help the policy developers to take the necessary measures. An Ex-post facto research design was used for the study. A sample size of 120 millet farmers and 10 millet processing units were selected for the study. To find out the most significant factor which influences the respondent, Garrett's ranking technique was used. Among the constraints faced by the millet farmers animal menace was found to be first rank followed by lack of knowledge on improved varieties as second rank, uncertainty of rainfall as third and unable fetch remunerative price as fourth rank. Among the constraints faced by

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the processing units lack of millet polish machine ranked as first followed by lack of cooperation among members of processing unit ranked as second and lack of flexibility to operation on various phase of electricity as third rank.

**Keywords:** Millet growers; processing units; constraints; garrett ranking.

## 1. INTRODUCTION

Millet is rich in dietary fiber, both soluble and insoluble. The insoluble fiber in millet is known as a “prebiotic,” which means it supports good bacteria in your digestive system [1]. This type of fiber is also important for adding bulk to stools, which helps keep you regular and reduces your risk of colon cancer. Kodo millet is repository of nutrients, a great substitute for rice and wheat. With a whopping 11 per cent protein for every 100 grams, it is also a rich source of fibre at 10 grams. Barnyard millet is an important crop. It is a fair source of protein, which is highly digestible and is an excellent source of dietary fibre with good amounts of soluble and insoluble fractions [2].

Agriculture is the major livelihood provider to about forty per cent of the population of Tamil Nadu. Nearly ninety per cent of underground water potential has been exploited [3]. In these circumstances millets can be cultivated to safeguard the food requirement. Millets is one of the oldest foods known to mankind. Millets hold enormous scope for food and nutritional security. They are predominantly grown in areas with low rainfall and contributes to food and fodder requirements [4].

In the millet growing area, farmers were not aware of the primary and secondary processing of millets. Government has taken several steps to install various millet processing units at Madurai district. But only very meagre percent of millet farmers process their produce. In this context, to assess the constraints in millet processing is very much needed. In addition, millet farmers facing several constraints in crop production and protection aspects [5].

## 2. METHODOLOGY

An Ex-post facto research design was adopted for the study. The ex-post facto research design is a systematic empirical enquiry in which the researcher does not have any direct control of independent variables and are not manipulable [6]. Madurai district was purposively selected for

this study. Kallikudi, Thirumangallam and Sedapatti blocks were purposively selected based on the highest area under small millets. A sample size of 120 millet farmers were selected randomly and ten government supported and NGO operated millet processing units were selected for the study.

To find out the most significant constraints faced by the millet growers, Garrett's ranking technique was used. It can be employed to learn what bothers more and what does not bother the respondent from the list of items given [7].

As per this method, respondents have been asked to assign the rank for all constraints and the outcome of such ranking have been converted into score value with the help of the following formula:

$$\text{Per cent position} = 100 (\text{Rij} - 0.5) \text{ Nj}$$

Where Rij = Rank given for the ith variable by jth respondents

Nj = Number of variable ranked by jth respondents

With the help of Garrett's Table, the per cent position estimated is converted into scores. Then for each constraint, the scores of each individual are added and then total value of scores and mean values of score is calculated. The constraints having highest mean value is considered to be the most important constraint [8].

## 3. RESULTS AND DISCUSSION

Based on the garrett ranking the constraints faced by the millet growers arranged hierarchically and are given in Table 1.

Among all the constraints animal menace in millet cultivation (8253) got first rank followed by lack of knowledge on improved varieties (7483) as second rank, uncertainty of rainfall (7302) as third and unable fetch remunerative price (6158) as fourth rank as per Garrett's score.

**Table 1. Constraints faced by the millet growers****(n=120)**

S. No.	Constraints faced by the millet growers	Percent position	Garrett Score	Rank
1.	Animal menace	5.56	8253	I
2.	Lack of knowledge on improved varieties	16.67	7483	II
3.	Uncertainty of rainfall	27.78	7302	III
4.	Unable fetch remunerative price	38.89	6158	IV
5.	Middleman involvement	50.00	5701	V
6.	Weeds problems (Kongra vali, peacock grass, Malla)	61.11	5321	VI
7.	Lack of skills on value addition of small millet produces	72.22	5097	VII
8.	Lack of access to millet processing unit	83.33	5077	VIII
9.	Non availability of improved seeds	94.44	4448	IX

**Table 2. Constraints faced by the millet processing units****(no. of units=10)**

S. No.	Constraints faced by the millet processing units	Percent position	Garrett Score	Rank
1.	Millet polish machine needs to be included	8.33	696	I
2.	Lack of cooperation among members of processing unit	25.00	533	II
3.	Lack of flexibility to operation on various phase of electricity	41.67	499	III
4.	Lack of storage facilities and drying yard	58.33	488	IV
5.	Lack of safety measures	75.00	400	V
6.	Store dehuller unable to process small quantity less than 50 kg of store dehuller	91.67	364	VI

Marketing through local agent (5701), weeds problems (5321), lack of skills on value addition of small millet produces (5097), lack of access to millet processing unit (5077) and non-availability of improved seeds (4448) obtained as fifth, Sixth, Seventh, Eighth and ninth rank respectively [9].

It could be found that majority of the millet growers experiencing weed problems, hence it is suggested that awareness about the summer ploughing need to be created among the millet growers.

### 3.1 Constraints Faced by Millet Processing Units

Based on the garrett ranking the constraints faced by the millet processing units arranged in hierarchically and are given in Table 2.

Among all the constraints millet polish machine needs to be included (696) got first rank followed by lack of cooperation among members of processing unit (533) got second rank and lack of flexibility to operation on various phase of

electricity (499) got third rank. Majority of the millet consumers preferred polished millets than semi polished millets even though it is nutritious one [10].

Lack of storage facilities and drying yard (488), lack of safety measures (400) and store dehuller unable to process small quantity less than 50 kg of store dehuller (364) got fourth, fifth and sixth rank respectively.

### 4. CONCLUSION

It is evident from above results that animal menace in millets cultivation reported as a major constraint which is ranked as first. It is suggested that village panchayat has to take concrete step to solve this problem by co-operative effects [11]. In rural areas shifting of electric phases, two phase and three phase is one among the problem. Hence, machines should be supplied in such a way flexible in operation on various phases [12]. Further small dehuller need to be supplied to them to do service for minimum quantity of grains.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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