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Constraints faced by farmers in agroforestry systems in Ratnagiri district of Konkan region

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Abstract

The study was conducted in Dapoli, Khed and Lanja tahsils of Ratnagiri district of Konkan region. The sample constituted 120 farmers following agroforestry drawn, from twelve villages. The respondents were interviewed with the help of specially designed schedule. Exploratory research design was used for the present study. The data were collected by personal interviews. The analysis of data revealed that majority of the respondents had losses due to wild animals, loss due to forest fire, less production of agriculture crop, high disease and pest incidence, inadequate clinical services at villages for livestock and poultry, long gestation period of trees, non-availability of required type of plants, difficulty in maintaining labours round the year and their high rate, lack of proper guidance at proper time, bad shadow effect on agricultural crops when trees are planted on bunds/ in fields, lack of knowledge about rules and regulations regarding planting and harvesting, lack of technical knowledge regarding agroforestry, deliberate damage and theft by villagers.

Keywords: Agro-forestry systems, constraints in agroforestry system

Introduction

Agroforestry is a land use system. integrates trees. crops or animals in a way that is scientifically sound. practically feasible. ecologically desirable and socially acceptable by the farmers (Nair. 1979) [7]. The main objective of the present study was to assess different agroforestry systems followed by farmers and constraints faced by farmers in agroforestry systems. Constraints helps the individual to improve balance effectively and efficiently. The success of constraints. therefore, can be best assessed in terms of types of constraints.

In Konkan region of Ratnagiri District there are few excellent agroforestry systems found farm boundary and homesteads are prevalent which included species like, aonla (*Embllica officinalis*) cashewnut (*Anacardium occidentale*), Mango (*Mangifera indica*), bamboo (*Bambusa arundinacea*), Jackfruit (*Artocarpus heterophyllus*), kokam (*Garcinia indica*), Hirda (*Terminalia chibula*) can be grown with agricultural crops for supplementing food. For fodder L. Leucocephala; fuel wood Eucalyptus, Shivan (*Gmelina arborea*), kinjal (*Terminalia paniculate*), ain (*Terminalia tomentosa*). Teak (*Tectona grandis*) and (*Tectona arjuna*) can be combined as woody components of agroforestry system. Gliricidia (*gliricidia sepium*) can be grown with agricultural crops for fencing and used for green manuring during puddling. Khair provides financial support (Mulukh *et al.* 2017) [5, 6].

Non-availability of nursery area (13.12 per cent), non-availability of Gov. Programme to promote agroforestry (34.37 per cent), non – availability of VLW to assists in agroforestry (30.00 per cent), stray cattle problems (23.12 per cent) Kumar *et al.* (2018). Maximum (29.62 per cent) of respondents were not adopted agroforestry because inadequate knowledge of agroforestry, inadequate land and no interest to practice agroforestry Mulukh *et al.* (2017) [5, 6]. policy problem, shading effect, lack of market facility, long gestation period of tree and difficulty in cultural operation were explained as main constraints in growing and further expansion of agroforestry trees on farm land in the district Sonbhadra Anand *et al.* (2016) [1].

The present study will be helpful to social scientists, administrators, social workers, policy makers, extension workers and rural leaders who are working in the field of rural development in better understanding of present status of farming system. actually, adopted by the farmers in the Konkan region. it would be helpful to different NGO's which are working for the development of the farmer.

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Methodology

The present study was conducted during 2020-21 year in Konkan region of Maharashtra state. Ratnagiri district of Maharashtra State was selected for the study because College of Forestry and All India Co-ordinated Research Project (AICRP) on Agroforestry is located in the same district. Similarly, maximum forest cover of the district is under the private ownership and very less area is recorded under state forest department. Majority of the farmers from this district are growing forest trees along with agriculture crop. Exploratory research design was used for the investigation. Purposive sampling technique was used for the selection of three tahsils, viz., Lanja, Khed and Dapoli. Lanja was selected for present study because of the presence of Head Quarters of Krishi Vindhyan Kendra in the same tahsil. Dapoli tahsil was selected due the presence of university campus. All India Co-ordinated Research Project on Agroforestry is conducted in Khed tahsil of Ratnagiri district, which have led to its selection Later, a list of agroforestry farmers was taken from the Taluka Agriculture Office of respective taluka. From the list prepared, sample was selected using random sampling method. Total 40 farmers were selected from each taluka, constituting an overall sample size of 120. Random sampling method was used for selection of respondents. The data were collected with the help of questionnaire. It included questions of background personal information, questions about different agroforestry, income and employment generated through the agroforestry systems, questions about constraints faced in agroforestry systems and suggestions of respondents. Data

was classified, tabulated and analyzed using mean, frequency, percentage and standard deviation.

Results and Discussion

Constraints faced by the farmers in adopting agroforestry system

It was operationally defined as the factors or problems or difficulties measured by the respondents in agroforestry system. There respondents were requested to express their constraints in agroforestry systems. The frequency and percent of each constraint were worked out to identify the major constraints encountered by the agroforestry system. The constraints reported by the respondents are presented in Table 1.

Data presented from Table 1 revealed that 'losses due to wild animals' expressed by majority of the agroforestry respondents were ranked first with 98.33 per cent. The next important constraint reported by the respondents were "loss due to forest fire" for AFS. less production of agriculture crop. high disease and pest incidence and difficulty in maintaining labours round the year which ranked second, third, fourth and fifth with 91.67 per cent, 87.50 per cent, 75.00 per cent and 41.66 per cent, respectively.

Analysis of Table 1 further shows that 64.17 per cent, 28.74 per cent and 21.26 per cent of the respondents expressed difficulties like, long gestation period of trees, lack of proper guidance at proper time and lack of technical knowledge regarding agroforestry, respectively.

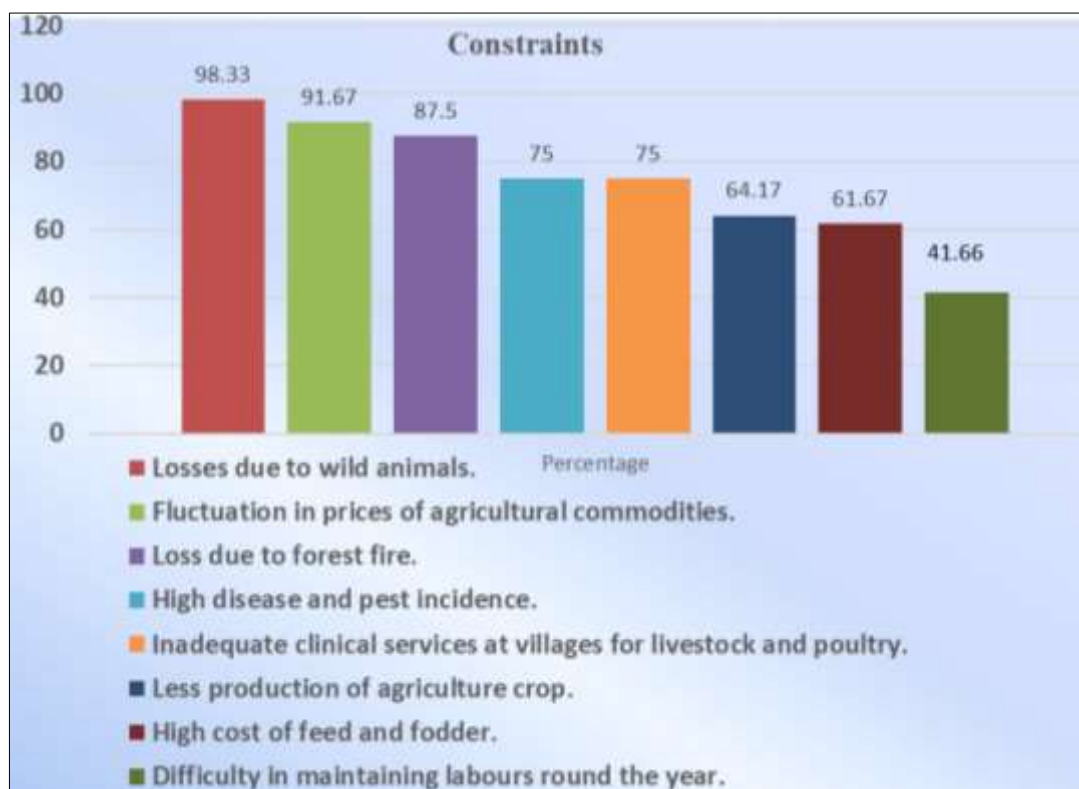


Fig 1: Distribution of the respondents according to their Constraints faced by farmers in agroforestry system

Further the extent of Table 1 shows that "required type of plants not provided" and "lack of knowledge about rules and regulations regarding planting and harvesting" were viewed by the respondents as constraints for adoption of Agroforestry systems with 61.67 per cent and 66.66 per cent of the

respondents' expressed difficulties, respectively.

Similar finding was also reported by Nair (1979) [7], Pagar (1996) [8], Mahatab (2010) [4], Anand *et al.* (2016) [1], Mulukh (2017) [5, 6] and Dhenge (2018) [24].

Table 1: Distribution of the respondents according to their constraints faced by farmers in agroforestry system

Sl. No.	Problems	Respondents (N=120)	
		Frequency	Percentage
1.	Losses due to wild animals.	118	98.33
2.	Loss due to forest fire.	110	91.67
3.	Less production of agriculture crop.	105	87.50
4.	High disease and pest incidence.	90	75.00
5.	Inadequate clinical services at villages for livestock and poultry.	90	75.00
6.	Long gestation period of trees.	77	64.17
7.	Required type of plants not provided.	74	61.67
8.	Difficulty in maintaining labours round the year and their high rate.	50	41.66
9.	Lack of proper guidance at proper time.	23	28.74
10.	Bad shadow effect on agricultural crops when trees are planted on bunds/ in fields.	11	13.76
11.	Lack of knowledge about rules and regulations regarding planting and harvesting.	80	66.66
12.	Lack of technical knowledge regarding agro-forestry.	17	21.26
13.	Deliberate damage and theft by villagers.	21	17.50

Conclusions

The valuable constraints made by the farmers for Agroforestry System were the respondents felt that bad shadow effect of trees on crops when trees are planted on bunds or in fields. difficulty in maintaining labours round the year and their high rate and deliberate damage and theft by villagers.

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