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Suggestions of the farmers to overcome the constraints faced by them 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 low-cost mechanical tools and electrical trap to protect their crop from wild animals, show the film about agro-forestry at village, provide the literature regarding trees and its planting techniques to farmers along with the seedling, animal health services government should be provided at nominal rate, educate them about latest rules and regulations regarding cutting or felling and transportation of the farm forestry produce, clinical services should be more accessible to farmers for livestock and poultry, Informed about the free supply (46.27 percent) of seedlings and the place and time of distribution as well as it should be made available at the first rain of the season, government should recruit sufficient number of veterinaries at each panchayat, disseminate the technical and marketing information through radio and television 69 programme in local language, the financial support should be made available for small and marginal farmers and long-term loan should be provided to them through co-operative societies, establish marketing facilities and where there are no market facilities for purchase of small quantity of forest produces, organize agro-forestry demonstration plot on farmer's field as well as on Government or Agricultural University farms, give advice to them about selection of land and planting trees on their farms, motivated to participate in Van-Mahotsav programme and to form tree growers co-operative societies.

Keywords: Agroforestry systems, suggestions on constraints in agroforestry system

Introduction

Agroforestry is a land use system which integrates trees, crops or animals in a way that is scientifically sound, practically feasible, ecologically desirable and socially acceptable by the farmers (Nair, 1979) [6]. The fundamental goal of the current study was to evaluate the various agroforestry practices used by farmers and the challenges they encountered. The person's ability to balance is improved effectively and efficiently by constraints. Therefore, it is best to evaluate the effectiveness of constraints in terms of the different types of constraints.

Agroforestry is the new name for an old collection of methods that keep multipurpose trees on agricultural fields primarily for the needs of fuel and fodder. In order to increase production and profitability for integrated goods and services, agroforestry is the science and art of wisely combining agricultural crops with woody perennials (horticultural and forest trees) on a single piece of land.

In Konkan region of Ratnagiri District, there are few excellent agroforestry systems which can be either farm bounded or homesteads and included species like, aonla (*Emblica officinalis*), cashewnut (*Anacardium occidentale*), Mango (*Mangifera indica*), bamboo (*Bambusa arundinacea*), Jackfruit (*Artocarpus heterophyllus*), Kokam (*Garcinia indica*), Hirda (*Terminalia chibula*), which 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 (Mulukh *et al.*, 2017) [4, 5].

Agroforestry is believed to be one of the sensible substitutes, has got the potential to capture land degradation, sequestering carbon and recover site productivity through interactions

among trees, soil, agricultural crops and livestock, and thus restore environment and enhance the productivity (Avery, 1990). Moreover, it is also recognized that, planting trees outside the forest in the form of agroforestry is the only substitute to meet the goal as required by the national forest policy 1988 for increasing vegetation cover to 33.00 percent from the present level of 24.00 percent (FSI, 2013). NFC has also stressed the expansion of forestry activities outside the forest area to achieve requisite forest cover (NFC, 2006) which can only be possible through agroforestry, farm forestry and other extension forestry approaches.

For a better knowledge of the current state of the farming system, the present study will be beneficial to social scientists, administrators, social workers, policy makers, extension workers, and rural leaders who work in the field of rural development in reality. It will be also beneficial to various NGO's that aim to advance farmer development.

Methodology

The present study was conducted during 2020-21 year in Konkarn 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

Suggestions offered by the respondent's adoption of agroforestry system were listed. The mean percent score of each suggestion was calculated and ranked accordingly. The findings about suggestions were presented in the Table 1. Data presented in Table 1 revealed that "farmers should be provided with low-cost mechanical tools and electrical trap to protect their crop from wild animals" as suggested by majority of the respondents were ranked first with 98.00 percent. The next important suggestion reported by the respondents were "to show the film about agroforestry at village" and "provide the literature regarding trees and its planting techniques to farmers along with the seedling" which ranked second and third with 83.33 percent and 75.00 percent, respectively.

Analysis of Table 1 further showed that "educate them about latest rules and regulations regarding cutting or felling and transportation of the farm forestry produce", "clinical services should be more accessible to farmers for livestock and poultry", "the free supply of seedlings and the place and time of distribution as well as it should be made available at the first rain of the season", "government should recruit sufficient number of veterinaries at each panchayat" and "disseminate the technical and marketing information through radio and television 69 programme in local language" were with important suggestions provided by the respondents with mean score 25.00, 25.00, 46.27, 11.50 and 5.00 percent respectively.

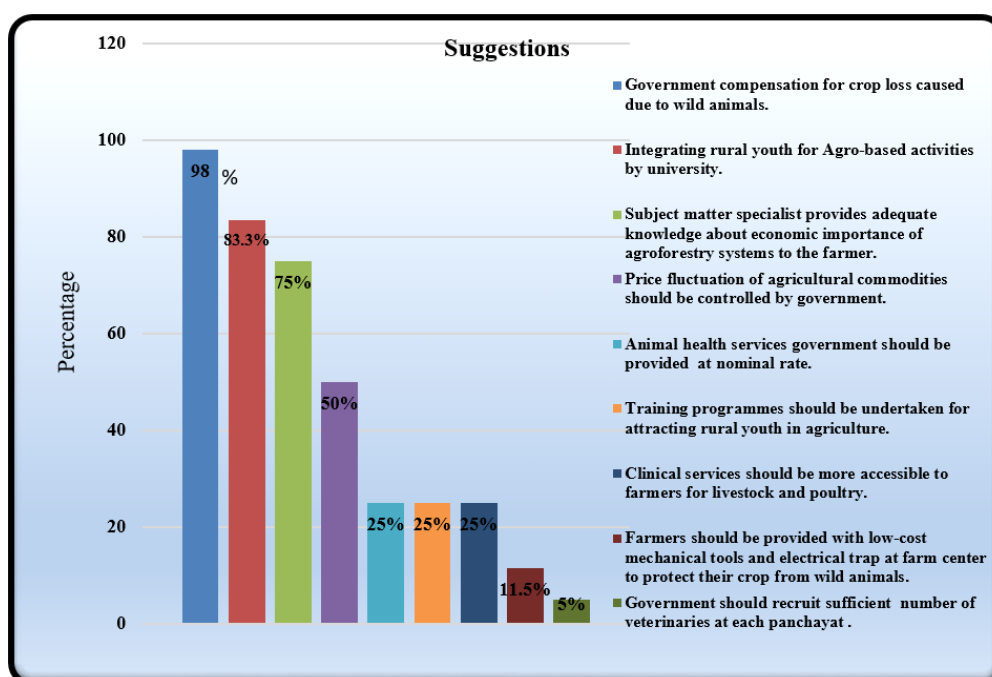


Fig 1: Distribution of the respondents according to their suggestions expressed by the respondents in following agroforestry systems

Further, Table 1 also showed that “the financial support should be made available for small and marginal farmers and long-term loan should be provided to them through co-operative societies”, “establish marketing facilities, where there are no market facilities for purchase of small quantity of forest produces”, “give advice to them about selection of land and planting trees on their farms”, “people should be motivated to participate in Van-Mahotsav programme and to form tree grouters co-operative- societies” and organize agro-

forestry demonstration plot on farmer's field as well as on Government or Agricultural University farms were viewed by the respondents as suggestions for adoptions of integrated farming system with mean score of 36.29, 13.76, 35.01, 8.79 and 13.75 percent, respectively. Similar findings were also reported by of Mulukh (2017) ^[4, 5], Dhenge (2018) ^[2]. The findings were also contradictory with the findings of Pagar (1996) ^[8].

Table 1: Distribution of the respondents according to their suggestions expressed by the respondents in following agroforestry systems

Sl. No.	Suggestions	Respondents (N =120)	
		Frequency	Percentage
1.	Farmers should be provided with low-cost mechanical tools and electrical trap to protect their crop from wild animals.	118	98.00
2.	To show the film about agro-forestry at village to village.	100	83.33
3.	Literature regarding trees and its planting techniques should be given to the farmers along with the seedlings.	90	75.00
4.	Animal health services government should be provided at nominal rate.	60	50.00
5.	The latest rules and regulations regarding cutting/felling and transportation of the farm forestry produce must be advocated to the villagers either by panchayat or forest department.	50	25.00
6.	Clinical services should be more accessible to farmers for livestock and poultry.	30	25.00
7.	People should be informed about the free supply of seedlings and the placed with time of distribution as well as it should made available at the first rain of the season.	37	46.27
8.	Government should recruit sufficient number of veterinaries at each panchayat.	23	11.50
9.	Disseminate the technical and marketing information through radio and television programme in local language.	10	5.00
10.	Financial support should be made available for small and marginal farmers and long-term loan should be provided to them through co-op. societies.	29	36.29
11.	Create market facilities and where there is no market facilities for small quantity of forest produce forest department should help the farmers to get remunerative prices.	11	13.76
12.	Agro forestry demonstration plot on farmer's field as well as on Government or Agricultural University Farms be organized.	28	35.00
13.	To give advice to them about selection of land and planting trees on their farms.	7	8.79
14.	People should be motivated to participate in Van-Mahotsav programme and to form tree grouters co-operative- societies.	11	13.75

Conclusion

The suggestions offered by the respondents may be considered by the authorities and concerned agencies for better and successful implementation of programmes related to adoption of different agroforestry systems.

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