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Scope of Mixed-farming on the Nilgiris

by

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Introduction: Mixed farming as a means of providing social and economic security to small farmers is now well realised. By adopting a diversified system of farming, the farmer can increase his income, provide work for all the members of the household all through the year and utilise the farm by-products profitably.

Mixed or diversified farming is the inclusion of several kinds of livestock, bee-keeping and poultry farming on the one hand and the cultivation of several kinds of crops on the other in the farming practice. In regard to the latter, it would be good for the farmer to plant both permanent and annual crops. Permanent crops should include fruit trees as well as economic trees providing saleable products such as fodder, firewood, fencing material, etc.

Mixed farming in Nilgiris: The Nilgiris district with its temperate and equitable climate offers great possibilities for diversified farming. The mixed farming is being widely practised in Yedapalli Village at Coonoor Taluk. The above village with the lands situated at altitudes between 3,000 to 6,000 ft. receives an average annual rainfall of 60" distributed in about 90 days in a year. Unlike Ootacamund, the rainfall is more from the North East monsoon and the temperature in winter

season is comparatively high. The average holding of a farm comes to 4.16 acres. But the above holding is scattered in about six places around the village. There are many farms having an average holding of ten acres and the mixed farming practised in one such farm is given below :—

1. *Potato*: (1 acre) If favourable rainfall is received an average gross income of Rs. 1,500/- is obtained, out of which the cost of cultivation comes to about Rs. 1,000/- per acre thus giving a net income of Rs. 500/-. But if the rains fail the yield is reduced giving a low income and sometimes loss also results. An average income of Rs. 400/- can be expected per acre per year by improved cultivation practices.

2. *Cereals*: (1.00 acre) The usual crops rotated with potato are ragi, samai, wheat and barley. These crops are not manured and only the residual effects of manure applied to potato is utilised. One of the causes for growing potato is for raising a subsequent cereal crop on rotation. These cereals form the staple food for the majority of farmers who supplement it with rice. With an average yield of ragi at 1200 lb. samai, wheat and barley at 800 lb. per acre an income of Rs. 200/- is expected. Among the cereals, wheat is more paying.

3. *Tea*: (4.00 acres) This is the main commercial crop of the tract. In a well maintained farm the average income per acre comes to about Rs. 500/-. The initial investment comes to about Rs. 2000/- per acre and the amount so spent will be recovered after about ten years. Plucking of tea leaves can be started from the fifth year onwards. The yield of Tea leaves is not adversely affected to any great extent by the vagaries of monsoon.

4. *Coffee*: (0.50 acre): The income from coffee cultivation is comparatively low and many small coffee estates are being converted into tea gardens. Further, growing of coffee requires more attention than tea and the seasonal conditions also affect the yield very much. Most of the ryots in the tract cultivate it for their house-hold consumption and the excess is sold to the Coffee-Board. An average net income of Rs. 200/- can be expected per acre.

5. *Wattle* (*Acacia sp.*): (1.00 acre): At present, the farmer is concentrating more on the cultivation of wattle rather than blue-gum (*Eucalyptus globulus*) on the steep slopes on account of the larger income and quick return. The cost of raising one acre of wattle comes to about Rs. 100/-. An out-turn of 5 tons of bark valued at average price of Rs. 300/- per ton (price ranges up to Rs. 550/- per ton) and 25 tons of fire-wood valued at Rs. 20/- per ton can be obtained easily from an acre for a rotation of 8 years. Hence the average income per acre per year comes to Rs. 250/-. Here, the only difficulty is that the farmer has to wait for a period of about 8 years to get the income.

6. *Blue-gum (Eucalyptus globulus)* : (0.50 acre) : This is grown not only for timber and fuel, but also for the Eucalyptus oil which has made Nilgiris famous. The average cost of raising the trees comes to about Rs. 100/- per acre. An acre of blue-gum shola yields about 50 lots (120 Cft.) of fire-wood and at the present rate of about Rs. 30/- per lot, it fetches about Rs. 1,500/- per acre and leaves about Rs. 500/- per acre (1 lot of firewood weighs about 1 ton). But the rotation followed is about 10 years and as such the average income per acre per year comes to about Rs. 200/-. Generally the ryot will not wait for such a long period and lopping and cutting of leaves will be done earlier.

7. *Orchard* : (1.00 acre) : Though the tract is ideally suited for a variety of fruits such as peach, plum, apple, pears, etc, plum alone has caught the attention of the farmer. The variety *Hale* due to its profuse bearing and ready market is the largest single type grown. At a spacing of about 30 ft. about 50 plants can be planted in an acre. In between the trees and even under shade, vegetables like beans, lettuce etc. and tea-seedlings can be raised. Each tree will fetch an income of Rs. 10/- after about 5 years and an income of Rs. 500/- can be obtained per acre per year. In the above farm, country peach seedlings are used as root stock for budding plums.

8. *Vegetables* : (0.50 acre) : Though this tract is suited for a variety of English vegetables like cabbage, cauliflower, beet-root, knolkhol, carrots, turnips, etc., cabbage forms the main cultivated vegetable. In one acre about 10,000 seedlings can be planted and an average income of Rs. 600/- per acre can be obtained. But irrigation, manuring and plant protection have to be attended to carefully.

9. *Bee-keeping* : This forms one of the easiest sources of income to the farmer. About 20 bee-colonies can be easily kept in the above farm and this will give an annual income of Rs. 40/- per hive per year. Bee hives are being maintained in the farm for the past 15 years.

10. *Fodder grasses and Dairy animals* : (0.50 acre) Besides raising fodder grasses (mostly Guinea grass) on the terrace faces, about 0.50 acres of swampy area is exclusively planted with Napier and Guinea Grass. The fodder obtained from this area is sufficient for the farmer. Besides supplying farm yard manure for vegetables and potato crops, the cattle supply the entire quantity of milk consumed by the farmer and his family throughout the year. Though milk is not being sold, the money value of milk and manure can easily come to about Rs. 200/- after deducting the maintenance charges for the cattle.

11. *Poultry-Keeping* : The farmer maintains 12 birds of White Leghorn and Black-minorca varieties and the income obtained from this comes to about Rs. 100/- per year.

The net income derived from the above different sources are tabulated below :—

Sources of Income and crops raised	Type of crop	Area	Income per acre Rs.	Total income Rs.
1. Potato ...	Annual	1 acre	400	400.00
2. Cereals (Rotated with Potato) ...	Annual	1 acre	200	200.00
3. Tea ...	Perennial Plantation crops	4 acres	500	2,000.00
4. Coffee ...	"	0.50 "	200	100.00
5. Wattle ...	"	1.00 "	250	250.00
6. Bluegum ...	"	0.50 "	200	100.00
7. Orchard ...	Perennial fruit crop	1.00 "	300	300.00
8. Vegetable garden ...	Annual	0.50 "	600	300.00
9. Bee-keeping ...		20 hives	40 per hive	800.00
10. Fodder grasses and dairy animals ...	Perennial	0.50 acre	400	200.00
11. Poultry keeping ...				100.00
12. Income from Marginal planting of wattle; shade trees in plantation, orange trees in coffee Garden; Scented Geranium on batter of bench terracing, etc. ...	Perennial			250.00
Total net income				5,000.00

From the above table, it is seen, a sum of Rs. 5,000/- can be obtained out of a 10 acre farm of dry lands in the hills. The farmers house and cattle sheds etc. are situated in the village and not inside the farm.

Modifications suggested to suit other conditions: All the farms may not have the same topography, climatic and soil conditions. The size of holdings may also vary from tract to tract and even within the same village. For the above variations the following suggestions are made.

(1) For holdings, situated in higher altitudes such as Ootacamund more area may be allotted for potato and vegetables rather than tea, coffee and fruit trees.



(2) For holdings situated in lower altitudes of 3000 ft. plantation crops like tea, coffee and wattle will be more paying than potato and cereals.

(3) If sufficient water facilities are available, more area can be brought under vegetables.

(4) Orchards should be established on the lee-ward side to avoid damage from winds.

(5) The bee-hives also should be kept on the lee-ward side and should have direct sun-light in the mornings.

(6) The steep and eroded areas may be planted with wattle and blue-gum.

Scope of further improvements :

(1) Sheep rearing as practised by the ryots around Ootacamund adds another source of income. The Animal Husbandry Department is supplying pedigree rams for the increased production of wool from its Research Station at Ootacamund. By maintaining sheep, additional income can be derived from wool, mutton and manure.

(2) The Department of Industries and Commerce advocates the planting of mulberry cuttings for silk-worm rearing and loans are being given to the ryots of the tract for the same. Any bit of area available can be utilised for the above cultivation to augment income.

(3) Instead of maintaining country cows, pedigree breeds like Ayrshire and Jersey which thrive well in the tract can be maintained and excess milk sold to augment income.

Conclusion: The Coonoor taluk of Nilgiris offers the greatest scope for the practice of mixed farming to augment the meagre income of ryots. By mixed farming, the difficulties encountered on the failure of monsoon rains and market fluctuations for farm produce can be overcome and the farmer is assured of a steady income out of his dry lands. Mixed-farming can be modified to suit the different climatic and soil conditions of a tract and this offers the greatest possibility of providing economic security to the farmer.

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