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# Constraints in various integrated farming systems

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## ABSTRACT

**This study was conducted at Puduchatram block from Namakkal Taluk and Namagiripet block from Rasipuram Taluk of Salem district as adequate number of diversified farms were available in these blocks. The most important constraint reported to have been faced by 86.19 per cent of the respondents was lack of co-coordinated extension services The second important constraint faced by 80.95 per cent of the respondents was lack of demonstration on integrated farming system. There were eight constraints on dairy farming. They were, in their order of importance, non-availability of planting material (95.83%), lack of knowledge on fodder crop cultivation (93.33%), inadequate veterinary service (91.67%). There were seven constraints reported by the respondents. Of these fluctuation in the price of cocoons, lack of knowledge on identification of disease symptom, lack of training on silkworm reeling could be considered as the most important constraints as they were reported by more than 75.00 per cent of the respondents. Establising model farms, high lighting the benefits of integrated farming system in one or two locations in each Panchayat union will enable the farmers of that locality to gain first hand knowledge about various aspects of integrated farming system.**


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## INTRODUCTION

The agricultural production can be increased by increasing agricultural production and productivity per unit area per unit time .The modern agriculture emphaseis two or more dimensions *viz.*, time and space concept. Income through arable farming alone is insufficient for bulk of the marginal farmers. Activities such as dairying, poultry, fish culture, sericulture, biogas production, edible mushroom cultivation, agro-forestry, agri-horticulture etc. assume critical importance in supplementing their farm income. It fits well with farm level infrastructure and ensures fuller utilization of by products. Datta and Kumar (1988) stated that sericulture being a labour intensive industry, economics of sericulture is dependent on a labour cost and this reduces the profitability of a sericulture farmer who is dependent on the additional labourer.

Integration of various enterprises in a farm ensures recycling of farm residues, optimum use of available resources, increase in employment opportunities, minimization of risks and uncertainties and above all to increase the farm income. Nagarm (1989) opined that for small holder farms in developing countries, growing of food and forage together on the same land have not been much practiced probably because of lacking of knowledge in suitable species and proper method of cultivation to fit forage into farming systems. The farmers have become aware about integrated farming systems fairly and widely about each and every component. They have faced several constraints. The present study was formulated with the objectives of identify the problems faced by the integrated farming system farmers in various enterprises.

## METHODOLOGY

The present study was conducted at Salem District where animal husbandry, poultry and sericulture activities are predominant in addition to crop production. Puduchatram block from Namakkal Taluk and Namagiripet block from Rasipuram Taluk of Salem district were specifically selected as adequate number of diversified farms were available in these taluks. Five villages from each block were randomly selected for the study by using simple random sampling method. A proportionate random sampling procedure was followed for selecting the farm for the study. A sample of 30 farm households each of crop alone, crop+dairy, crop +sericulture, crop + poultry, crop + sericulture + poultry, crop + sericulture + poultry + dairy, crop + dairy + sericulture + poultry and crop + poultry + sericulture integrated farming systems were selected for giving proportionate allocation to the available integrated farms in 10 villages

(five villages in each block). The respondents were asked to indicate the problems faced by them . The problems enlisted were ranked based on percentage analysis.

## RESULTS AND DISCUSSION

Constraints faced by the respondents related to integrated farming system as a whole and as related to individual enterprises were assessed and the details are presented in the following pages.

### Constraints related to integrated farming systems as a whole:

There were nine constraints reported to have been faced by respondents. The details are presented in Table 1.

The most important constraint reported to have been faced by 86.19 per cent of the respondents was lack of coordinated extension services. In the last two decades the erstwhile single Department of Agriculture was divided into many departments like Department of Agriculture, Horticulture, Oilseeds, Seed certification and Agricultural marketing. The extension workers became more specialized in their respective fields. The farmers practicing integrated farming system were made to contact extension personnel of different departments for information but the farmers needed single window through which they could obtain whatever they needed related to their farms. Hence, this constraint perceived by large majority of the respondents. The second important constraint faced by 80.95 per cent of the respondents was lack of demonstration on integrated farming system.

**Table 1: Constraints in integrated farming systems ( n=210)**

| Sr. No. | Constraints | No | % |
|---|---|---|---|
| 1. | Lack of co-ordinated extension service | 181 | 86.19 |
| 2. | Lack of demonstration on integrated farming system | 170 | 80.95 |
| 3. | Lack of knowledge on integration aspects of sub systems | 142 | 67.62 |
| 4. | Inadequate credit facilities | 142 | 67.62 |
| 5. | Inadequate supply and high cost of labour | 140 | 66.67 |
| 6. | Lack of information on type and size of enterprises to be included | 116 | 55.24 |
| 7. | Lack of composite credit facilities | 104 | 49.52 |
| 8. | Lack of skilled laborers | 80 | 38.10 |
| 9. | Lack of knowledge on effective recycling of farm wastes | 71 | 33.81 |

Though, number of farmers in the study area were operating more than one enterprises in their farm, they have done without actually understanding the concept of integrated farming system. Their main purpose was to increase their farm income. The Tamil Nadu Agricultural University, in its number of teaching campuses and research stations has conducted research on integrated farming system. It has also established demonstration units in such centre. The demonstration units are highly inadequate in number and are not distributed evenly throughout the state. Therefore, it is suggested that integrated farming system demonstration centre should be established in all the districts of the state so that potential farmers can easily visit them and get convinced. The third important constraint was lack of knowledge on integration aspects of enterprises (67.62%). Lack of information on type and size of enterprises to be included (55.24%) and lack of knowledge on effective recycling of farm wastes (33.81%) were the other two constraints related to the third constraint. It is suggested that these constraints could be easily removed by organizing suitable training programmes on integrated farming system and educating the farmers.

Inadequate credit facilities and 'lack of composite credit facilities' were reported as constraints by 67.62 and 49.52 per cent of the respondents, respectively. Majority of the respondents belonged to marginal and small farmer's categories. These people normally prefer to borrow from village co-operative credit societies. These societies have restrictions on the loan amount allowed for individuals. These societies usually lend money for crop production purposes and the amount lend is always inadequate.

Farmers practicing integrated farming system need increased amount of credit to meet the needs of various enterprises. Institutions like co-operative credit society and even the nationalized banks refuse to lend credit for more than one enterprise at a time for the farmers. Hence, 49.52 per cent of the farmers have felt lack of composite credit facilities as one of the constraints.

Inadequate supply and high cost of labour was felt as constraint by 66.67 per cent of the respondents. In integrated farming system involving number of enterprises require labour throughout the year and hence this constraint was perceived by respondents. Lack of skilled laborers was felt as a constraint by 38.10 per cent of the respondents. Skilled laborers are required particularly, in poultry and sericulture related operations as they are dealing with live birds and worms. To alleviate this problem, it is suggested to organize peripatetic training programme in the farms practicing integrated farming

system involving both the farmers and their laborers.

**Constraints on crop production faced by farmers in integrated farming systems:**

Crop production involves number of specific activities in selecting and adopting recommended technologies. The details on constraints faced by farmers on crop production are presented in Table 2.

There were eight constraints on crop production as presented in Table 2 based on their importance. Three fourth of the respondents (75%) reported that uncertainty in price of agricultural produce was the major constraint faced by them. Non – availability of inputs in time was reported as a constraint by 72.08 per cent of the respondents. Next in importance was the non-availability and high cost of labour. Inadequate credit facilitates was reported as a constraint by 62.50 per cent of the respondents. This was followed by non-availability of labour saving implements (58.33%), poor extension service (57.50%), inadequate market facilities (45.83%) and lack of irrigation facilities (40.83%). All the above mentioned constraints seemed to be commonly existing in various parts of the state. These observations derive support from the findings of Selvaraj and Seetharaman (1990) and Iqbal (1992) who revealed that non-availability of labour, inadequate irrigation facilities, lack of credit facilities and uncertainty in price of agricultural produce were the problems faced by farmers, respectively.

**Table 2: Constraints on crop production faced by farmers in integrated farming systems (n=240)**

| Sr. No. | Constraints | No. | % |
|---|---|---|---|
| 1. | Uncertainty in the price of the produce | 180 | 75.00 |
| 2. | Non-availability of inputs in time | 173 | 72.08 |
| 3. | High cost of labour | 162 | 67.50 |
| 4. | Inadequate credit facilities | 150 | 62.50 |
| 5. | Non-availability of labour saving implements | 140 | 58.33 |
| 6. | Poor extension service | 138 | 57.50 |
| 7. | Inadequate market facilities | 110 | 45.83 |
| 8. | Lack of irrigation facilities | 98 | 40.83 |

**Constraints faced by farmers in dairy, poultry and sericulture included integrated farming systems:**

Maintaining of milch animals is taken very casually by the farmers in general. Only when the cross-bred animal is added to the farm, farmers attach importance to their feeding and health. Constraints faced by farmers who maintained the dairy animals were assessed and are presented in Table 3.

**Constraints in dairy included integrated farming:**

There were eight constraints on dairy farming (Table 3). They were, in their order of importance, non-availability of planting material (95.83%), lack of knowledge on fodder crop cultivation (93.33%), inadequate veterinary service (91.67%), high mortality rate (59.17%), lack of availability of dry fodder (58.33%), high cost of concentrates (54.17%) and inaccessibility to organized market (45.83%). These findings are in accordance with those reported by Nagarm

**Table 3: Constraints faced by farmers in dairy, poultry and sericulture (n = 120)**

| Sr. No. | Constraints | Respondents from various dairy included farming systems | |
|---|---|---|---|
| | | No. | % |
| **Dairy farming** | | | |
| 1. | Non-availability of planting materials for fodder cultivation | 115 | 95.83 |
| 2. | Lack of knowledge on fodder crop cultivation | 112 | 93.33 |
| 3. | Inadequate veterinary service | 110 | 91.67 |
| 4. | Lack of availability of green fodder in lean season | 98 | 81.67 |
| 5. | High mortality rate | 71 | 59.17 |
| 6. | Lack of availability of dry fodders | 70 | 58.33 |
| 7. | High cost of concentrates | 65 | 54.17 |
| 8. | Inaccessibility to organized market | 55 | 45.83 |
| **Sericulture** | | | |
| 1. | Fluctuation in the price of cocoon | 106 | 88.33 |
| 2. | Lack of knowledge on identification of disease symptoms | 100 | 83.33 |
| 3. | Lack of training on silkworm rearing | 95 | 79.17 |
| 4. | Lack of technical facilities | 84 | 70.00 |
| 5. | Lack of technical assistance | 65 | 54.17 |
| 6. | Inadequate marketing facilities | 60 | 50.00 |
| 7. | High risk | 50 | 41.67 |
| **Poultry** | | | |
| 1. | Lack of credit facilities | 110 | 91.67 |
| 2. | Lack of knowledge on preparation of poultry feed | 110 | 91.67 |
| 3. | High cost of poultry feed | 100 | 83.33 |
| 4. | Lack of training on poultry health management | 90 | 75.00 |
| 5. | Lack of technical assistance | 87 | 72.50 |

(1989) who found that lack of knowledge in suitable species of fodder to fit forage into farming system was the constraints faced by small farmers and Chinnadurai (1990) also found that high cost of concentrates and green fodder and lack of technical guidance as the constraints in dairy farming. From the above constraints, it could be concluded that the farmers are very much conscious about importance of producing fodder in their farms. They are also concerned about the health of their animals. It was also clear from the constraints that milk co-operative societies or at least milk collection centers were not available in all the villages.

**Constraints on sericulture faced by farmers in integrated farming system:**

Sericulture involves two components, mulberry cultivation and silkworm rearing. Both involve lot of technologies. The constraints faced by farmers in sericulture were identified and the details are presented in Table 3.

There were seven constraints reported by the respondents. Of the seven constraints, fluctuation in the price of cocoons, lack of knowledge on identification of disease symptom, lack of training on silkworm reeling could be considered as the most important constraints as they were reported by more than 75.00 per cent of the respondents. Lack of technical facilities was a constraint for 70.00 per cent of the respondents. Lack of technical assistance, inadequate market facilities and high risk were the other important constraints. There findings are in accordance with the findings of Ayyadurai (1980), Sridharan (1981) and Benchamin (1989) who found that lack of control measures for controlling the diseases of silkworm, risk and uncertainty, non-availability of labourers for picking of leaves and lack of adequate input and lack of credit facilities, were as the major constraints.

The fluctuating market prices of cocoons considerably affect the income from sericulture. Market centers operated by the department of sericulture mostly in the district headquarters are the only places form marketing cocoons. Cocoon reeling is done mostly by private people and only by very few co-operatives. Sericulturists in the study area felt that the price for their cocoons are purposively reduced by colluding private buyers as the farmers have no choice of alternate markets and compulsion to sell the cocoons within a shorter period of time. This problem could be solved by opening cocoon procurement centers in areas where sericulture is practiced by large number of farmers. Lack of knowledge on identification of disease symptoms of silkworm often leads to the loss of entire batch of worms. Hence, the farmers need to be adequately trained in these aspects.

The farmers need for credit could be met by the Nationalized Banks by modifying the cumbersome procedures followed at present. The department of sericulture should be strengthened by adding more of field level functionaries in order to make available the technical assistance fairly at frequent intervals to the sericulture. It is suggested that departments of animal husbandry and sericulture should intensify their extension efforts at the grass root level by appointing technically competent persons.

**Constraints in poultry included integrated farming system:**

There were two constraints, lack of credit facilities and lack of knowledge on preparation of poultry feed which were reported by 91.67 percent of the respondents . This finding derives support from the finding of Sharma and Grover(1992).Establishing a poultry unit requires high initial cost and also recurring expenditure. The farmers invariably seek credit from institutional sources and every one seeking credit may not get the same. Hence, lack of credit emerged as the most important constraints. It was realized the lack of training on managing the health of their birds. Hence, majority of them (75%) reported it as the constraint.

## Conclusion:

The study reveals that considerable percentage of farmers have mentioned that lack of technical service , lack of institutional credit source and inadequate market infrastructure as some of the important problems faced by them,. It is suggested that departments of animal husbandry and sericulture should intensify their extension efforts at the grass root level by appointing technically competent persons. This will make available the technical services within the reach of the farmers. Farmers need of credit for initial high expenditure on poultry and sericulture enterprises and the high operational cost could be by the nationalized banks by simplifying their lending procedure .These institutions can also make available composite credit to the farmers practicing integrated farming systems . It is suggested to strengthen the existing market infrastructure for silk worm and extend the facilities to Taluk level.

The poultry growers can form co-operative market federation for effective marketing of their eggs. The integrated farming system when practiced scientifically is capable of increasing the farm income and hence , there is an urgent need to popularize it widely in the rural areas . Establishing model farms, high lighting the

benefits of integrated farming system in one or two locations in each Panchayat union will enable the farmers of that locality to gain first hand knowledge about various aspects of integrated farming system.

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