Mysore J. Agric. Sci., 52 (3) : 431-435, 2018

Suitability Analysis of Farm Technologies as Perceived by Farm Women

D. VENGATESAN AND SANTHA GOVIND
Department of Agricultural Extension, Faculty of Agriculture, Annamalai University, Annamalai Nagar-608 002
E-mail : santhagovind2003@yahoo.co.in

ABSTRACT

The involvement of women in agriculture is as old as the advent of agricultural practices in the world. Women are intensively involved in all the farm operations. However, women's involvement and participation are not always 'visible' as compared to the 'visibility' of men. Moreover, the technologies are said to be gender neutral. The study was taken up with the objective of assessing the suitability of paddy farming and dairy management technologies as perceived by small farm women. Sample size of 60 wet land farm women were selected using proportionate random sampling technique. Technology suitability index was developed to assess the suitability of the paddy and dairy management technologies. The findings on suitability of paddy farming technologies as perceived by wet land farm women, showed that out of thirty four technologies, only three technologies *viz.*, thinning, gap filling and grading the seeds by using sieves were found to be highly suitable by cent per cent of the respondents. Technologies like application of pre-emergence herbicide by using sprayer, spraying herbicide mixed with water in high volume sprayer, application of insecticides by using sprayer and draining the water from field were perceived as not suitable by the farm women. Twelve dairy management technologies expressed as highly suitable by the respondents were feeding the animals, making curd, butter and ghee, delivery and after care, care of new born calves, rearing of calves, taking animals to pasture lands, preparation of cattle feed, care of pregnant animals, collection of fodder by using sickle, providing water for animals, cleaning the cattle shed and care of sick animals.

Keywords : Farm technologies, paddy farming, dairy management, farm women

TECHNOLOGICAL base for improving productivity and income of the rural population in the field of agriculture has broadened with the success of Green revolution that the country witnessed during mid sixties. Various technological innovations have been released claiming spectacular yield potential at research stations. As a result of research and transfer of technology programmes, the production has increased over time in the decades, thus balancing the population growth and food production of our country. However, the benefits of the new production technology have accrued mostly to male farmers while the women farmers have been bypassed in the development process.

The involvement of women in agriculture is as old as the advent of agricultural practices in the world. Agriculture is considered as one of the most primitive and oldest forms of human economic activity primarily based on land. Women in the past were intensively involved in all the farm operations. However, women's involvement and participation were not always 'visible' as compared to the 'visibility' of men. The situation has not improved much, even today. Social and institutional setup is unable to take into cognisant the role played and contribution made by women in any areas of economic activity including their participation in agriculture and dairy management. Barker (1997) opined that appropriateness should be defined within the scope of what is technically feasible, economically feasible, socially acceptable, environmentally safe and sustainable.

The present situation demands active participation of women along with men in all walks of life to have better life. Involvement of women in all development activities again demands a proper understanding to assess their needs and extent of fulfilment. With this background and in the absence of empirical evidence, the present study is attempted to understand the suitability of the paddy and dairy

management technologies as perceived by wet land small farm women.

METHODOLOGY

The study was taken-up in Nagapattinam district in Tamil Nadu which comprised of maximum area under wet land farming system. A sample size of 60 small farm women owning a minimum pair of dairy animals were selected by using proportionate random sampling technique for analysing the suitability of paddy and dairy management technologies as perceived by wet land farm women. Ex-Post Facto research design was used in the study. The required data was collected by utilising a well structured and pre-tested interview schedule. An exhaustive list of statements on paddy farming and dairy management technologieswas prepared. These statements were examined within the scope of what is technically feasible, economically feasible, socially acceptable, environmentally safe and sustainable one. The suitability of paddy and dairy management technologies as perceived by the respondents was measured on a three point continuum of 'Highly suitable, Moderately suitable and Not suitable' by allotting a score of 3, 2, and 1, respectively.

$$\text{Technology suitability index} = \frac{\text{Actual score obtained}}{\text{Maximum possible score}}$$

Based on the index obtained for each technology, they were classified further into highly suitable, moderately suitable and less suitable.

RESULTS AND DISCUSSION

Overall suitability of paddy farming technologies as perceived by the farm women

Results on distribution of respondents according to their overall suitability of paddy farming technologies as perceived by small farm women are presented in Table I. It could be observed from the data in Table I, that nearly three-fifth of the respondents (58.33 %) fell under medium level of suitability of paddy farming technologies, whereas one-third of the respondents (33.33 %) belonged to low level and only 8.34 per cent of the respondents belonged to high level

TABLE I

Distribution of respondents according to their overall suitability of paddy farming technologies (n=60)

Category	Number	Per cent
Low	20	33.33
Medium	35	58.33
High	5	8.34
Total	60	100.00

of suitability of paddy technologies. It was noticed that farming and suitability of technologies were the two sides of the same coin and were inseparable among small farm women. This may be due to the reason that most of the technologies are traditionally followed practices by farm women. These technologies were difficult to understand and practice by farm women. Further, these technologies did not improve production efficiency and involved more drudgery in their day to day work. The result is in agreement with the results of Guna (2016) who also reported that majority of the farm women belonged to medium level of suitability of eco-friendly technologies.

Suitability of paddy technologies

Suitability of paddy technologies as perceived by wet land farm women

The findings on the suitability of various paddy technologies are discussed in Table II.

TABLE II

Suitability of paddy technologies as perceived by the farm women (n=60)

Technology	Score	Index
Field Preparation		
Stubble collection	96	0.53
Digging the corners of field by using spade	90	0.50
Cleaning the field boundaries by using spade	84	0.46
Application of FYM	85	0.47
Planting		
Dry seed treatment with carbendazim	125	0.69

Technology	Score	Index
Wet seed treatment with carbendazim	120	0.67
Seed treatment with bio-fertilizers	138	0.77
Root dipping with phosphamidon	130	0.72
Planting	170	0.94
Transplanting		
Pulling out the seedlings from nursery	170	0.94
Bundling the seedlings into convenient size with soft materials	173	0.96
Inter - cultivation		
Thinning	180	1.00
Gap filling	180	1.00
Hand weeding by using hand hoe	155	0.86
Application of pre-emergence herbicide by using sprayer	60	0.33
Mixing herbicide with sand	167	0.93
Mixing herbicide with water in high volume sprayer	60	0.33
Mixing herbicide with neem coated urea	150	0.83
Basal application of DAP	75	0.41
Application of inorganic fertilizers	75	0.42
Application of insecticides by sprayer	60	0.33
Spot application of insecticides	140	0.78
Pulling out affected seedlings	172	0.95
Setting up of light traps	145	0.80
Fixing yellow pan traps	127	0.70
Application of insecticides by broadcasting	120	0.67
Harvest		
Draining water by using spade	60	0.33
Harvesting by using sickle	170	0.94
Post - harvest		
Manual threshing	155	0.86
Winnowing by using hands	142	0.79
Sun drying the seeds	168	0.93
Grading the seeds by using sieves	180	1.00
Treating the storage seeds with chemicals	110	0.61
Bagging the seeds	142	0.78

The suitability of technologies may vary from individual to individual and from region to region. Hence, an attempt was made to analyze the suitability of various paddy technologies as perceived by wet land farm women.

It could be seen from Table II that farm women were involved in thirty four technologies in paddy farming. Out of thirty four technologies, only twenty three technologies which were expressed as highly suitable are thinning (1.00), gap filling (1.00), grading the seeds by using sieves (1.00), bundling the seedlings (0.96), pulling out affected seedlings (0.95), pulling out the seedlings from nursery (0.94), planting the seedlings (0.94), harvesting by using sickle (0.94), mixing herbicide with sand (0.93), drying the seeds (0.93), hand weeding (0.86), manual threshing (0.86), mixing herbicide with neem coated urea (0.83), setting up of light traps (0.80), winnowing (0.79), bagging the seeds (0.78), spot application of pesticides (0.78), seed treatment with bio-fertilizers (0.77), root dipping with phosphamidon (0.72), fixing yellow pan traps (0.70), dry seed treatment with carbendazim (0.69), wet seed treatment with carbendazim (0.67) and application of insecticides by broadcasting (0.67). This finding derives support from the findings of Reena Sethi and Renu Bala Sharma (2011).

As reported by the farm women, the possible reason for the high suitability of the above technologies is that most of these technologies are performed manually with easiness without the use of operating tools and machineries. Another possible reason could be that these technologies involves less physical strain and are of less complex in nature wherein most of the decisions were taken by themselves. This finding derives the support from the studies of Prasad and Wijeratne (2003) who also reported that majority of these technologies were expressed as highly suitable to farm women.

Seven technologies were indicated as moderately suitable by the farm women *viz.*, treating the storage seeds with chemicals (0.61), stubble collection (0.53), digging the corners of field by using spade (0.50), application of FYM (0.47), cleaning the field boundaries by using spade (0.46), application of inorganic fertilizers (0.42) and basal application of

DAP (0.41). This is in conformity with the findings of Arulraj (2013).

The remaining technologies perceived to be not suitable by farm women were application of pre-emergent herbicide by using sprayer, spraying herbicide mixed with water in high volume sprayer, application of insecticides by using sprayer and draining the water from field with suitability index of 0.33.Machineries / Tools / equipments are not designed according to the socio-economical characteristics and physical nature and stamina of women, resulting with more drudgery and fatigue on the part of the women thereby resulting with less perceived suitability among farm women. This finding is in line with the findings of Vengatesan *et al.* (2018) who also reported that majority of the respondents expressed these technologies as not suitable.

Suitability of dairy management technologies as perceived by wet land farm women

The suitability of dairy technologies as perceived by wet land farm women have been analysed and discussed in Table III.

TABLE III

Suitability of dairy management technologies as perceived by farm women (n=60)

Technology	Index Score	Suitability Index
Construction of shed	70	0.39
Collection of fodder by using sickle	125	0.69
Cleaning the cattle shed	120	0.67
Providing water for animals	125	0.69
Cleaning the animals	110	0.61
Cultivation of fodder crops	45	0.25
Taking animals to pasture lands	140	0.78
Preparation of cattle feed	129	0.72
Feeding the animals	165	0.92
Insemination at correct stage	75	0.42
Care of pregnant animals	130	0.72
Delivery and after care	150	0.83
Care of new born calves	155	0.83
Rearing of calves	150	0.83
Care of sick animals	120	0.67
Making curd, butter and ghee	160	0.88

It could be observed from Table III, that out of sixteen technologies considered for assessing the suitability of dairy management practices among wet land farm women, only twelve technologies were expressed as highly suitable by the respondents *viz.*, feeding the animals (0.92), making curd, butter and ghee (0.88), delivery and after care (0.83), care of new born calves (0.83), rearing of calves (0.83), taking animals to pasture lands (0.78), preparation of cattle feed (0.72), care of pregnant animals (0.72), collection of fodder by using sickle (0.69), providing water for animals (0.69), cleaning the cattle shed (0.67) and care of sick animals (0.67). Most of the technologies were women oriented operations and could be learnt easily by the farm women without any difficulty as they were involved in carrying out these operations right from their childhood days. This finding is in line with the findings of Singh *et al.* (2015).

The next group of technologies which were expressed as moderately suitable by the farm women were cleaning the animals (0.61), insemination at correct stage (0.42) and construction of shed (0.39). Only one technology *viz.*, cultivation of fodder crops (0.25) was perceived as less suitable by farm women. It might be due to lack of knowledge on cultivation of fodder crops and requirement of additional investment for the same.

The findings on suitability of paddy farming technologies as perceived by wet land farm women, showed that out of thirty four technologies, only twenty three technologies were found to be highly suitable, while twelve dairy management technologies were expressed as highly suitable by the respondents. Low cost, women oriented and less drudgery involving farming technologies should be developed to put them into immediate use in the rural farm setting. The methodology developed for assessing the suitability of technologies in the study, can also be utilized for assessing the suitability of other farm and allied technologies. Research efforts should be focused on the need and suitability assessment of technologies which would be highly suitable to the farm women so as to carry out the farm operations more efficiently.

References

ARULRAJ , A., 2013, Technological needs of banana growers of Cuddalore district, *M.Sc.(Ag.) Thesis* (Unpub.), Annamalai University, Annamalai Nagar.

BARKER, C., 1997, Selecting appropriate content and methods in programme delivery. In: Swanson, B. E., Bentz, R., Pand, A. J. and Sofranko (Eds.), *Agricultural Extension : A Reference Manual*, Rome: FAO, pp. 67 - 68.

GUNA, B., 2016, Role of farm women in the transfer of eco-friendly technologies, *Ph.D. Thesis* (Unpub.), Annamalai University, Annamalai Nagar.

PRASAD, W. D. N. R. AND WIJERATNE, M. , 2003, Agricultural extension and farmer needs for technology, *International Rice Research Notes*, pp. 55 - 56.

REENA C. SETHI AND RENU BALA SHARMA, 2011, Frontier technologies for empowering farm women, *International J. Farm Sciences*, **2** (1) : 142 - 145

SINGH, A. K., SARJU NARAIN AND JITENDRA CHAUHAN, 2015, Capacity of farmers to pay for extension services, *Indian Research J. Extn. Edu.*, **11** (3) : 60 - 62.

VENGATESAN, D., KALIDASAN, T. AND RAMESH, P., 2018, Suitability of eco-friendly paddy technologies as perceived by farmers of Cuddalore district, Paper presented at a international seminar on Recent Scenario in Plant Science Research - Climate Change and its Associated Variations, Department of Botany, Annamalai University, Annamalai Nagar.

(*Received :* April, 2018 *Accepted :* June, 2018**)**