Mysore J. Agric. Sci., 55 (4) : 156-161 (2021)

A Study on Progressiveness of Paddy and Groundnut Farmers in Chittoor District of Andhra Pradesh

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ABSTRACT

Progressiveness is characterized as the steady improvement in an individual. Farmer being a central element in development programmes need to have character of progressiveness for reaping the benefits from the programmes. In this regard a study was conducted to measure farmer progressiveness in Chittoor district of Andhrapradesh by considering 30 paddy and 30 groundnut farmers. The results of the study revealed that paddy and groundnut farmers have a progressiveness mean scores of 63.31 and 65.98. The progressiveness level of paddy (40.00 %) and groundnut (36.67 %) farmers were noticed to be in high category indicating that agricultural programmes have brought sufficient improvement in their knowledge levels. Further dimension wise comparison had shown that agricultural and economic components were contributing more to the progressiveness whereas social, individual, household and environmental progressiveness were not contributing much, which indicates that agricultural development programmes need to be comprehensive by including all the factors for all round improvement of the farmers.

Keywords : Farmer progressiveness, Dimensions of progressiveness, Paddy and groundnut

AGRICULTURE is an essential component in most of the rural economies where it is used as a component in the rural development strategies. Progressiveness is characterized as the steady improvement of an individual which helps in improvement of his living standard. A carefully planned systematic approach to agricultural development therefore requires identification of progressive farmers who could be utilized as key communicators for quick diffusion of technologies and successful implementation of the development initiatives. Progressive farmers may be good examples and motivators for young farmers and youth to work in the agricultural sector (Anwarudin and Haryanto, 2016). Progressive farmers can act as the catalysts which trigger brain gain in rural areas. Progressive farmers that are labeled as self-help extension workers may play an active role, have control over the life of their own community, take a leadership role in society and become more involved in development (Haryanto *et al.,* 2018). Many of the agricultural development programs and activities launched by the government involving the extension process are felt to be unsustainable because they stop when the contract expires. However, it is different when the program is monitored and implemented by farmers *i.e.,* the results are sustainable and do not stop because of project contracts (Lukuyu *et al.,* 2012). It can be seen from previous studies that progressive farmers had the ability not only to evolve themselves but also can improve the community they were living. They can supplement the efforts of extension workers to build on a developed society.

The role of agricultural sector in Andhra Pradesh state economy is very significant. The contribution of agriculture under primary sector to the State Gross Value Added for the year 2017-18 is 15.22 per cent on the basis of current prices. However, 62.17 per cent of the working population is still dependent on agriculture and allied activities (Agricultural Statistics, 2018-19). Agriculture in Andhra Pradesh is mostly dependent on rainfall. Monsoon and seasonal conditions play a major role in

the agricultural production. The unfavorable conditions of the cultivators in the state and to know progress made by them was the urge to taken up the study to measure farmer progressiveness in the state.

Methodology

This study was conducted during 2020-2021 in Chittoor district of Andhra Pradesh which belongs to the Southern NARP zone. The district ranks first in per cent of cultivator population to total population (Agricultural Statistics, 2018-19). Paddy and Groundnut are the principal crops in the study area with 0.05 mha and 0.108 mha of cultivated area, respectively. The sample comprised of 60 respondents, consisting of 30 paddy farmers and 30 groundnut farmers. Ex-post facto research design was adopted for the study and the collected data was scored and analyzed using mean, standard deviation, frequency, percentage and means index scores.

Extent of rural development in rural areas was measured by using Rural Development Index (RDI), for which economy, education, health environment, culture and leisure as the domains (Vinayak and Patil, 2018). Household annual income, farm credit, cultivated farm land, access to basic services and food security were more important factors for welfare of farmers (Darsana and Suresha, 2018).

In the present study farmer progressiveness is operationally defined as the extent to which farmer is receptive and moving towards development through agricultural, economic, social, individual, household and environmental advancements. Scale was developed for the study by using Normalized rank approach method recommended by Guilford (1954). Six dimensions *viz.,* agricultural, economic, social, individual, households and environmental were identified and scale values for each of these dimensions were 8.95, 6.17, 4.10, 3.60, 2.99 and 5.20, respectively, which was calculated by using the method followed by Guilford (1954) and Hull (1928). The responses were collected with their respective continuum of correct / incorrect, yes / no, agree / disagree with a score of 1 and 0 for positive statements and reverse scoring for negative statements. The maximum scores for the agricultural, economic, social, individual, households and environmental dimensions were 16, 10, 13, 11, 14 & 8, respectively. The formulae for measuring Farmer progressiveness (FP) was:

$$FP=\frac{\left(\frac{OD1\times SD1}{MD1}\right)+\left(\frac{OD2\times SD2}{MD2}\right)+\left(\frac{OD3\times SD3}{MD3}\right)+\left(\frac{OD4\times SD4}{MD4}\right)+\left(\frac{OD5\times SD5}{MD5}\right)+\left(\frac{OD6\times SD6}{MD6}\right)}{SD1+SD2+SD3+SD4+SD5+SD6}\times 100$$

Where,

OD1 … OD6 = Obtained scores of dimensions 1 to 6

MD1… MD6 = Maximum score of dimensions 1 to 6

SD1… SD6 = Scale value of dimensions 1 to 6

Thus, the maximum possible score one can obtain for progressiveness was 100. Further, the respondents were classified into low (less than Mean - ½ SD), medium (between Mean - ½ SD and Mean + ½ SD) and high (more than Mean + ½ SD) progressiveness categories.

Results and Discussion

Progressiveness of Paddy and Groundnut Farmers

It was revealed in Table 1, that groundnut farmers were having progressiveness mean score of 65.98, whereas paddy farmers have a mean score of 63.31 which shows that groundnut farmers were more progressive compared to that of paddy farmers. The probable reason is that most of the farmers in Chittoor district were rainfed farmers, who are going for cultivation of groundnut in large areas whereas the farmers who had irrigation facilities were taking up paddy. Hence regular cultivation of groundnut made them naturally gaining more knowledge towards groundnut practices and made them more progressive.

Table 1

Overall mean scores of progressiveness of paddy and groundnut farmers

n=60

Crop	Maximum possible score	Overall mean score	SD
Paddy	100	63.31	15.75
Groundnut	100	65.98	12.73

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Extent of Progressiveness of Paddy and Groundnut Farmers

The data in Table 2, presents that an equal (40.00 %) percentage of paddy farmers belongs to high and medium level of progressiveness, whereas 20.00 per cent of them belongs to low level of progressiveness. In groundnut, 36.67 per cent of them belongs to high level whereas 33.33 and 30.00 per cent in medium and low level of progressiveness.

TABLE 2

Extent of progressiveness of paddy and groundnut farmers

n=60

Paddy farmer (n_1=30)			Groundnut farmer (n_2=30)		
Criteria	Frequency	Per cent	Criteria	Frequency	Per cent
Low (< 55.44)	6	20.00	Low (< 59.62)	9	30.00
Medium (55.44-71.19)	12	40.00	Medium (59.62 - 72.35)	10	33.33
High (>71.19)	12	40.00	High (> 72.35)	11	36.67

Farmers cultivating paddy were irrigation rich farmers with sufficient inputs which made them to adopt proper practices, which made them to gain good scores. Hence, majority of them expressed high and medium extent of progressiveness. Whereas, groundnut crop is commonly cultivated by most of the farmer in all seasons which made them to have sufficient knowledge in cultivating the crop hence most of the farmers were in high and medium category.

Dimension Wise Comparison of Progressiveness of Paddy and Groundnut Farmers

Dimension wise mean scores of paddy and groundnut farmers were calculated and presented in Fig. 1. Four out of six dimensions *i.e.,* agricultural, individual, household and environmental progressiveness were high in groundnut farmers as compared to that of paddy farmers.Agricultural progressiveness mean score was 7.03 among groundnut farmers which is slightly high compared to that of 6.49 mean score of paddy farmers, which shows that groundnut farmers

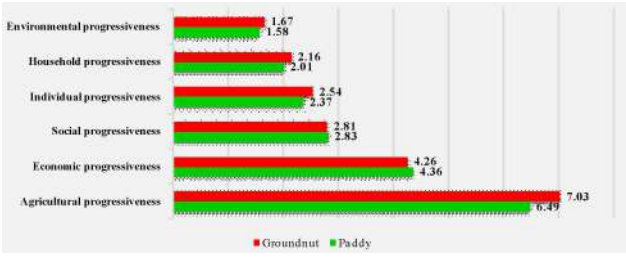

Fig. 1: Dimension wise comparison of paddy and groundnut

had sufficient knowledge in cultivating the crop. Groundnut requires less attention as compared to that of paddy which made them involved in other activities and it improved their household and individual components. Groundnut crop is leguminous crop and requires less fertilizers as compared to that of paddy and also the cultivation practices of paddy itself has more negative impact on environment. This made environmental progress high in groundnut farmers.

Economic progressiveness is slightly high in paddy farmers with mean score of 4.36 as compared to groundnut with a mean score of 4.26 because capital utilization is efficient in paddy. Social progressiveness was almost same in both farmers as social values of farmers were same in both of them and they are actively engaging in community activities irrespective of the crops cultivated.

Dimension Wise Mean Index Scores of Progressiveness of Paddy and Groundnut Farmers

Mean index scores of six dimensions of paddy and groundnut farmers were calculated and presented in Fig. 2 and 3 to rank them.

It can be observed from Figure 2, that economic progressiveness ranks first with a mean index score of 43.60 followed by agricultural progressiveness (40.56) second, social progressiveness (21.77) third, individual progressiveness (21.55) fourth, environmental progress (19.75) fifth and household progressiveness (14.36) sixth among paddy farmers. It can be explained that paddy crop has a good commercial value and gives good income to the farmer which made them more progressive towards the economic component.

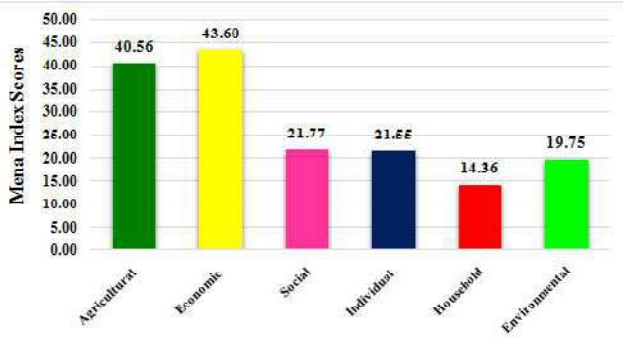

Fig. 2: Dimension wise mean index scores of progressiveness of paddy farmers

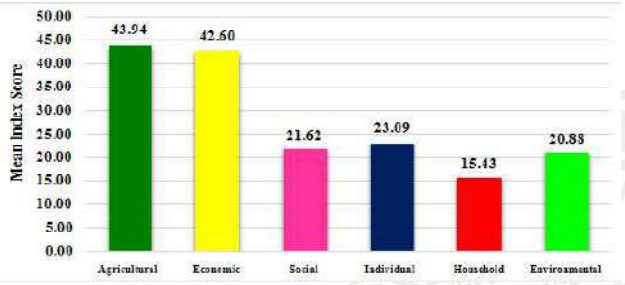

Fig. 3: Dimension wise mean index scores ofprogressiveness of groundnut farmers

From Fig. 3, we can spot that agriculture progressiveness ranks first with a mean index score of 43.94 followed by economic progressiveness (42.60) second, individual progressiveness (23.09) third, social progressiveness (21.62) fourth, environmental progressiveness (20.88) fifth and household progressiveness (20.88) sixth among groundnut farmers. From this we can conclude that groundnut farmers had sufficient knowledge in cultivation practices which made them high in agricultural progressiveness.

We can also notice that household progressiveness ranks last in both farmers because the farmers were not progressed enough to involve women in their decision making activities of farm and family and also the data was collected during Covid-19 period where the majority of farmers expressed that food security as a problem.

Dimension Wise Distribution of Progressiveness of Paddy and Groundnut Farmers

A detailed analysis of farmer progressiveness with respect to six dimensions were presented in Table 3.

Agricultural Progressiveness

More than two-fifth (43.33 %) of paddy farmers have medium level of Agricultural progressiveness followed by 33.33 and 23.33 per cent having high and low levels of Agricultural progressiveness. With respect to groundnut slightly more than two-fifth (43.33 %) of farmers have high level of Agricultural progressiveness followed by 33.33 and 23.33 per cent having medium and low levels of Agricultural progressiveness. Farmers had sufficient knowledge on agricultural practices and sufficient trainings by agricultural department made them adopt the technologies.

Economic Progressiveness

It was observed that two-fifth (40.00 %) of paddy farmers have medium level of economic progressiveness followed by 33.33 and 26.67 per cent having high and low levels. Whereas in groundnut nearly half (46.67 %) of them have medium level followed by equal (26.67 %) having high and low levels of economic progressiveness. It was because farm activity engagement, capital formation of farmers of both farmers were at medium level.

Social Progressiveness

It was noticed that two-fifth (40.00 %) of paddy farmers have medium level of social progressiveness followed by high (33.33 %) and low (26.67 %) levels. Whereas in groundnut 36.67 per cent have medium and high levels of social progressiveness followed by 26.67 per cent had low level. Involvement in community activities and helping other farmers in technology adoption made them having high and medium levels of social progressiveness.

Individual Progressiveness

It was seen that two-fifth (40.00 %) of paddy farmers have low level of individual progressive ness followed by equal (30.00 %) per cent age of them having medium and high levels. In groundnut slightly more than two-fifth (43.33 %) of them have high individual progressiveness followed by medium (30.00 %) and low (26.67 %) levels. It was seen

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TABLE 3

Dimension wise distribution of progressiveness of paddy and groundnut farmers

n=60

Dimensions	Paddy farmer (n_1=30)			Groundnut farmer (n_2=30)		
	Criteria	Frequency	Per cent	Criteria	Frequency	Per cent
Agricultural progressiveness	Low (< 5.54)	7	23.33	Low (< 6.34)	7	23.33
	Medium (5.54 - 7.44)	13	43.33	Medium (6.34 -7.72)	10	33.33
	High (> 7.44)	10	33.33	High (> 7.72)	13	43.33
Economic progressiveness	Low (< 3.66)	8	26.67	Low (< 3.57)	8	26.67
	Medium (3.66-5.06)	12	40.00	Medium (3.57-4.95)	14	46.67
	High (> 5.06)	10	33.33	High (> 4.95)	8	26.67
Social progressiveness	Low (< 2.44)	8	26.67	Low (< 2.41)	8	26.67
	Medium (2.44 -3.22)	12	40.00	Medium (2.41 -3.20)	11	36.67
	High (>3.22)	10	33.33	High (>3.20)	11	36.67
Individual progressiveness	Low (<1.97)	12	40.00	Low (<2.17)	8	26.67
	Medium (1.97- 2.76)	9	30.00	Medium (2.17- 2.91)	9	30.00
	High (> 2.76)	9	30.00	High (> 2.91)	13	43.33
Household progressiveness	Low (< 1.71)	10	33.33	Low (< 1.88)	8	26.67
	Medium (1.71-2.31)	9	30.00	Medium (1.88-2.43)	13	43.33
	High (> 2.31)	11	36.67	High (> 2.43)	9	30.00
Environmental progressiveness	Low (< 1.05)	11	36.67	Low (< 1.20	8	26.67
	Medium (1.05- 2.11)	12	40.00	Medium (1.20- 2.13)	14	46.67
	High (> 2.11)	7	23.33	High (> 2.13)	8	26.67

that paddy farmers need to take decisions by considering others which creates confusion in them causing low level of individual progressiveness.

Household Progressiveness

Household progressiveness gives insights into food security, education and decision making pattern in the family. It was noticed that 36.67 per cent of paddy farmers have high level of progressiveness followed by low (33.33 %) and medium (30.00 %) levels. In groundnut farmers it was observed that more than two fifth (43.33 %) had medium level of household progressiveness followed by high (26.67 %) and low (26.67 %) levels.

Environmental Progressiveness

It was observed that two-fifth (40.00 %) of paddy farmers have medium level of environmental progressiveness followed by 36.67 per cent and 23.33 per cent having low and high levels. Whereas nearly half (46.67 %) of the groundnut farmers have medium level of environmental progressiveness followed by 26.67 per cent of low and high levels of environmental progressiveness. It can be explained

that resource utilization and resource conservation by farmers were not efficient leading to medium and low levels of environmental progressiveness.

It was observed that paddy and groundnut farmers had a mean score of 63.31 and 65.98 to the maximum possible score of 100 which indicates that there is a still a chance for improvement in the progressive level of the farmers. The study also revealed that most of the paddy and groundnut farmers had medium and high level of progressiveness which shows that government initiatives helped farmers to upgrade their cultivation practices and boosted their economic aspects. A cursory look at the dimensions of farmer progressiveness indicates that agricultural and economic components are contributing more to progressive level neglecting social, individual, household and environmental components. Hence, government while conducting development programmes should not only concentrate on covering cultivation or by giving kind and cash benefits to farmers but also need to include other components like including holistic and family centered approach in the objectives of the agriculture development programmes in order to increase the farmer progressiveness.

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(*Received :* August 2021 *Accepted :* November 2021)