

## Creativity and Environment of Extension Personnel in Haryana State of India

K. Nagasri and K. Vijayaragavan<sup>1</sup>

Central Institute for Dryland Agriculture (CRIDA)  
Santoshnagar (PO)  
Hyderabad -500 059, India

**ABSTRACT.** *In the changing technological and economic scenario the extension organizations have to be more innovative and creative. The study made an attempt to assess the creativity level and creative environment of extension organisations. The investigation was undertaken in the state of Haryana (India). The respondents of the study consisted of 100 extension officers selected through random sampling working at different levels namely district, sub-division, circle and village. A creativity test having four sub-tests on fluency, flexibility, originality and problem sensitivity was developed for the study. The creative environment had seven dimensions viz., stimulation, nurturance, relaxation, constructive feedback, learning opportunities, and diversity of viewpoints and freedom with accountability for excellence. The study revealed that a majority of extension personnel were found to have a low to medium level overall creativity. About 44% of extension personnel had a low level of overall creativity whilst 38% had a medium level. Only 18% of them had a high level of overall creativity. The creative environment of extension personnel was also found to be less congenial for the development of creativity. About 48% of extension personnel rated their work environment as unfavourable and 26% rated it as neutral for facilitating creative behaviour. The study shows the need for training of extension personnel in creativity as well as improving the organizational environment to promote a favourable climate for creativity.*

### INTRODUCTION

Extension organizations today face problems like professional incompetence, lack of motivation, low job-productivity and inability to respond to the socio-technological changes occurring in the environment. In order to have a competitive edge in the changing environment, extension organizations should be progressive, creative and forward looking. About 50 years ago, farmers were considered as traditional, laggards and unwilling to accept changes, while extension professionals seemed to be enthusiastic and innovative. However, the situation today has reversed. Today, farmers are innovative and extension personnel have become laggards. Extension organizations are unable to creatively respond to the changes taking place in their environment and remain duplicative and tradition bound. There is a need to infuse innovativeness and employ new approaches for improving the efficiency of the extension system.

Creativity is a process of generating new ideas, products or process so as to solve problems and improve the quality of life (Young, 1988). Creativity is not a luxury and the future efficiency of extension depends upon it. The extension educators have to creatively

---

<sup>1</sup> Division of Agricultural Extension, Indian Agricultural Research Institute, New Delhi - 110 012, India.

combine traditional as well as modern information technologies such as television and computer in the fast changing environment. They should also be innovative in solving emerging issues arising out of globalisation, environmental degradation, sustainability, and declining farm productivity. Thus, creativity in extension system has to become a way of life and on-going process. The creativity of extension organization depends upon the creativity of extension personnel. However, Smith (1988) as well as field observations reveal that an average extension worker is faced with problems such as unhealthy organizational climate, stress, work overload which suppress their creativity level. Studies (Khandwalla, 1988; Petty, 1998) have also pointed out that everybody has enough ability to be creative. Further, there seems to be no correlation between intelligence and creativity. According to Maslow (1967) ordinary people of average intelligence were able to solve problems and come out with inventive, novel and unconventional solutions. These people were found to be spontaneous, less self-critical and had a higher level of self-confidence. It is possible that present day extension personnel have enough creativity, but it is masked due to poor organizational environment. In the above context, there is a need to find answers to the following questions: What is the existing level of creativity of extension personnel? Do they have a favourable organizational climate which promotes creativity? Consequently, the objectives of the present study were to assess the creativity level of extension personnel and also to find out the perception of extension personnel with regard to creative environment.

## MATERIALS AND METHODS

The investigation was undertaken in the State of Haryana (India), which was selected since it had a strong network of extension personnel and a well established State Department of Agriculture. Two districts namely Gurgaon and Karnal out of 12 districts were chosen on the basis of random sampling method. The respondents of the study consisted of extension personnel working at State Department of Agriculture as well as Krishi Vigyan/Gyan Kendras (Farm Science Centres). A sample consisting of 100 extension officers working at different levels such as district, sub-division, circle and village level was chosen for the study by proportionate random sampling.

### Measurement of variables

#### Creativity

Creativity was operationalised as the ability of extension personnel to generate novel and useful ideas as well as innovative solutions to everyday problems and challenges faced by them in their work situations. It had four dimensions such as ideational fluency, flexibility, originality and problem sensitivity. Fluency refers to the ability to produce as many new ideas as possible. Flexibility refers to the ability to adopt new ways or strategies to achieve the goal. Originality measures a person's ability to come up with unusual but relevant and useful ideas, which are appropriate to a given situation. Problem sensitivity is a person's ability to recognize or notice the uncommon, incongruent, unsatisfactory responses in a situation. It also measures the ability to spot difficulties or deficiency in common products or social institutions. A creativity test was developed based upon the above four dimensions, which included the following four sub-tests: fluency test, flexibility

test, originality test and problem sensitivity test. Total creativity score was obtained by scoring each response for flexibility, fluency, originality and problem sensitivity. The raw scores of above four dimensions were converted into the standardized scores individually to make them follow normal distribution. The validity of the creativity test was ascertained through content validity, using the opinion of selected judges. The reliability of the instrument, which was through a test-retest, was found to be very high. The reliability coefficients for different sub-tests of creativity were as follows: fluency (0.76), flexibility (0.84), originality (0.86) and problem sensitivity (0.89). The extension personnel were classified into three groups (low, medium, high) based on their creativity score using the following formula:

$$I = L - S/K$$

where:

I = Appropriate class interval	L = Largest value
K = Number of classes	S = Small value

### **Creative environment**

Creative environment refers to the motivational climate, which promotes creativity. It includes the following factors: stimulation (opportunities for new tasks and challenges), nurturance (encouragement for innovation and experimentation), relaxation (low tension circumstance which does not dismiss new ideas), constructive feedback (opportunities for constructive and tough feedback), learning opportunities (avenues for vigorous technical training), diversity of viewpoints (encouragement for alternative and multiplicity of opinions), and freedom with accountability for excellence (respecting independence of thought and action along with demand for responsibility and performance). The creativity environment was measured with the help of a scale developed by Khandwalla (1988), which contained 28 sets of statements under four types of environments namely, childhood, school, social and work environments.

## **RESULTS AND DISCUSSION**

### **Creativity level**

The study revealed that the fluency score of extension personnel ranged from 0.43–4.81 with a mean of 2.70 (Table 1). As much as 50% of extension personnel had a medium level of fluency. Only 22% of them had a high level of fluency while 28% fell under low level. This clearly indicates that fluency level of a majority of extension personnel is medium to low. Fluency, which is the ability to produce or come out with as many ideas as possible to solve a problem or bring improvements, is useful for extension personnel when their resources are limited. Finding alternative ways of improving productivity or performance is essential under constrained resource conditions. Since fluency is an important component of creativity, efforts should be made to increase it's level through training.

**Table 1.** Distribution of extension personnel on creativity score.

Creativity level	Percentage of extension personnel (n = 100)
<b>Flucency</b>	
High	22
Medium	50
Low	28
<b>Flexibility</b>	
High	17
Medium	48
Low	35
<b>Originality</b>	
High	7
Medium	38
Low	55
<b>Problem sensitivity</b>	
High	18
Medium	55
Low	27
<b>Overall creativity level</b>	
High	18
Medium	38
Low	44

Flexibility is very important as extension workers have to understand the problem of low productivity or poverty from different frames of reference or viewpoints, which will help them to come out with alternative paths for solution. Only 17% of extension personnel were found to have a high level of flexibility. It is clear from the above results that most of the extension personnel fell under medium to low level of flexibility. Having different points of view helps in building mental flexibility which is essential for solving problems of rural people. Since these are very much applicable for extension organisations, flexibility level of extension personnel needs improvement.

Originality makes the contributor unique, thus the organization as superior and effective. It was astonishing to know that only seven per cent of the extension personnel exhibited a high level of originality score and more than half of them (55%) was found to have a low level of it. The above findings reveal that originality, which is one of the most important aspects of creativity, was found to be at low level, with a majority of extension personnel. This means that the extension personnel's capacity to find novel, uncommon yet useful ideas to solve day to day problems is limited. This calls for restructuring the

extension system which is suffering from duplication and tradition bound practices so as to encourage people to come out with original and useful ideas.

Similarly, a majority of extension personnel (55%) had a medium level of problem sensitivity, which is related to spotting uncommon things and sensitive to the feelings of others. This quality is essential when you deal with rural people and work in villages where an ability to notice incongruity or contradiction is needed to make effective decisions. If extension personnel are not sensitive to the feelings of rural people they cannot receive their full support. The study further revealed that only 18% of extension personnel were found to have a high level of creativity indicating that the overall scenario of creativity of extension personnel is unsatisfactory and needs improvements.

The above findings, which show a low level of creativity among extension personnel have some important implications for extension organizations. Efforts should be made to improve their creativity level through creativity training. Studies have shown that creativity can be enhanced through training and training modules specifically designed to improve the creativity of development workers are available (Vijayaragavan *et al.*, 2000). The extension officers are generally given in-service training only in technical areas related to agricultural production. But the need for improvements in skills in areas related to creativity has not received the attention of top management and policy makers. This situation should change and training in creativity should become one of the important components of in-service training programmes.

### Creative environment

The extension personnel had experienced a decline in creative-inducing atmosphere as they left the school and entered the adult work environment (Table 2). This can be seen because only 26% of extension personnel perceived the overall current work environment as favourable as against 41.4 and 39.4% who perceived their overall childhood and school environment as favourable, respectively. The above findings clearly show that the childhood and school environment was relatively more congenial for creativity than that of work environment. Childhood and school environment has been said to be an important prediction of creativity. The congeniality of above environment is likely to produce a greater amount of creativity resulting in undertaking innovative work. However, the unfavourableness of current work environment might have masked favourable impact of childhood and school environment of extension personnel. The data in Table 2 also reveal the decline in congeniality of environment in seven dimensions as extension personnel moved from childhood to adult work environment. These dimensions were stimulation, nurturance, relaxation, constructive feedback, learning opportunities, diversity of viewpoints and freedom for excellence. Since as much as 48% of extension personnel had perceived the overall current work environment as favourable along with 26% who fell in neutral category, we can conclude that the work environment of most extension organisation is not congenial for blossoming of creativity. The overall picture of work environment of extension personnel shows that it is unfavourable, and seems to have depressed the creative potential of extension personnel. The unfavourable work climate may possibly explain the unsatisfactory level of creativity of extension personnel.

**Table 2. Creative environment: perception of extension personnel.**

Environmental factors/ Dimensions	Perception of extension personnel (%) n=100								
	Childhood environment			School environment			Work environment		
	F	N	UF	F	N	UF	F	N	UF
Stimulation	51	30	19	47	30	23	37	25	38
Nurturance	26	23	51	27	23	50	9	25	66
Relaxation	49	33	18	51	25	24	38	26	36
Constructive feedback	39	26	35	37	26	37	20	23	57
Learning opportunities	34	34	32	33	29	38	18	27	55
Diversity of view points	36	32	32	32	32	36	18	31	51
Freedom for excellence	55	22	23	49	30	21	39	25	36
Overall environment	41.4	28.5	30.0	39.4	27.8	32.7	25.8	26.0	48.4
	F - Favourable	N - Neutral	UF - Unfavourable						

Table 3 presents the results of discriminant function analysis for environmental factors with regard to extension personnel of high and low creativity groups. The values of D2 and F are 0.824 and 3.395, respectively. The value of D2 had shown a significant discriminant power at 0.05 level of probability. This implied that the variables selected for discriminant function were useful in discriminating the extension personnel of high creativity group with low creativity group. The relative importance of the environmental factors was shown by the percentage contribution of each variable to the total distance measured.

**Table 3. Discriminant analysis for environmental factors between high and low creativity groups of extension personnel.**

Environmental factors	Mean difference (D)	't'	Coefficient (L)	D * L	Per cent of D2
Stimulation	0.67	3.08	-0.12	-0.08	-10.02
Relaxation	0.76	3.63	1.44	1.09	133.25
Freedom for excellence	0.66	2.75	-0.28	-0.19	-23.22
	D2 - 0.824	F value - 3.395			

We can do nothing about the past childhood and school environment. However, one can improve the current work environment of extension personnel. The step towards improving the favourableness of work environment has to start with analysing it and finding out the areas for change. The data in Table 2 reveal that at least four areas need the

attention of policy makers. A majority of extension personnel (more than 51%) had indicated that these four dimensions are unfavourable. These areas, which needs the highest attention, are stimulation, followed by constructive feedback, learning opportunities, and diversity of view points. As much as 66% of extension personnel had unfavourable environment related to nurturance. This shows that the present work climate of extension organizations does not encourage and reward creativity. The creative efforts are ignored and perhaps penalized. The environment related to 'learning opportunities' was perceived to be unfavourable by 57%. This points out that a majority of extension personnel do not get adequate opportunities for higher level technical training at well known institutions. As much as 55% of extension personnel had an unfavourable situation on 'opportunities for receiving constructive feedback'. It is clear from above observation that in present work climate in extension organization either there exists a laissez-faire system or an atmosphere of criticism which dampens the creativity. As high as 51% of extension personnel felt that an environment for 'diversity of viewpoints' was unfavourable in their work place. This means that the viewpoints of only few selected officials are esteemed which promote conformity or uniformity. The above situation calls for efforts to improve the work climate of extension organization so as to facilitate their creativity. The extension organizations should have supportive leadership, which encourages and rewards creativity. Opportunities have to be provided for challenging and interesting tasks. Mechanisms have to be devised for constructive feedback as well as simplifying rules and regulations. As an important component of improving creativity climate, provisions have to be made for high-level technical training at prestigious universities or institutes. The extension managers at different levels should organize brainstorming sessions at frequent intervals to find ways and means of improving the environment climate.

### CONCLUSIONS AND RECOMMENDATIONS

Results of the study reveal that majority of extension personnel had a low level of overall creativity and originality. In the case of fluency, flexibility and sensitivity a majority of them had a medium level. Therefore, it can be concluded that the overall creativity level of extension personnel is not satisfactory. This shows a need to improve their creativity through training. Thus the top management of extension organizations should allot sufficient budget and resources to train their staff in creativity on regular basis particularly in inservice training programmes which in turn will help the extension system to become innovative and creative.

The results of the study also reveals that overall formative environment (childhood and school) was relatively more congenial than that of current work environment for the growth of creativity. The current work environment of extension worker is not congenial for blossoming of creativity which may possibly be one of the reasons for their poor creativity level. This shows the need for improving the work climate of extension organizations. Efforts should be made by the top management and policy makers to improve the environment along the dimensions related to nurturance, constructive feedback, learning opportunities, and diversity of viewpoints.

## **ACKNOWLEDGEMENTS**

This research work which is a part fulfilment of my Ph.D. work in Agricultural Extension was supported by the financial assistance provided by Postgraduate School of Indian Agricultural Research Institute, New Delhi. I also thank Dr. K.V.V. Satyanarayana, for his assistance and motivation, which helped me to complete the project in time.

## **REFERENCES**

- Khandwalla, P.N. (1988). *Fourth Eye-Excellence Through Creativity*, A.H. Wheeler and Co., New Delhi, India.
- Maslow, A.H. (1967). *The creative attitude*. In: Mooney, R.L. and Razik, T.A. (Ed). *Explorations in Creativity*, Harper and Tow, New York, USA.
- Petty, G. (1998). *How to be Better at Creativity*, Kogan Page India Private Limited, New Delhi, India.
- Smith, K.L. (1988). Innovation and creativity in extension. *J. Exten.* 26(2): <http://www.joe.org/joe/1988summer/rb2.html>.
- Vijayaragavan, K., Singh, P. and Wason, M. (2000). *Training Manual on Improving Management Skills of Extension Professionals (Part II)*, Division of Agricultural Extension, IARI, New Delhi, India.
- Young, G.J. (1988). What is creativity. *J. Creative Behaviour.* 19(2): 77-87.