

Study on Effectiveness of Managerial Abilities of Agricultural Extension Personnel by using Gap Percent Analysis

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ABSTRACT: Current study was undertaken, to Study on Effectiveness of Managerial Abilities of Agricultural Extension Personnel in the state of Andhra Pradesh. The study was conducted in Godavari Region of Andhra Pradesh State, is purposively selected. For the study ex-post facto research design is utilized from every level 40 individuals are selected randomly 20 from every District to make up a sample of 160 from all the four levels. The scale developed by H.B. Gardharia with suitable modifications was applied. A total of ten indicators namely, Planning, Organizing, Directing, Communicating, Controlling, Human Relation, Leading, Supervising, Coordinating and Decision Making were considered. A detailed statements of questionnaire was prepared by considering all these indicators. The agricultural extension personnel were asked to respond on the interview schedule developed the response was collected, the data processed and analysed by using mean, gap percent analysis. From the results it can be observed that the agricultural extension personnel have good Planning, Organizing, Directing, Communicating, Controlling, Human Relation, Leading, Supervising, Coordinating and Decision-Making ability with less gap percentage.

Keywords: Effectiveness, Planning, Organizing, Directing, Communicating, Controlling, Human Relation, Leading, Supervising, Coordinating, Decision Making, Managerial Abilities, gap percent analysis, Agricultural Extension Personnel, Andhra Pradesh.

INTRODUCTION

For the survival, healthy growth and sustainable development of any organization there should be an efficient management system. For the efficient management the persons in the organization should have good managerial abilities or skills. The same thing applies for the development and sustainable growth of the state agricultural line department, Agricultural extension agents' competencies will hugely help government in implementing agricultural development in programs in their respected are as based on the pre-determined field activities (Ison and Russell 2000). Agricultural Extension is defined as system for the exchange of information and transfer of skills between farmers, extension workers and researchers for the purpose of assisting farmers to identify farming production problem (Ogunsumi and Abegunde 2011) here the agricultural extension personnel are the key agent and responsible for an efficient management system of the state agricultural line department. Agricultural extension plays a crucial role in upgrading the quality of human resources, also it functions as a learning process for the key actors so that farmer will be able to help and organize themselves in getting access to market information, technology, capital and other resources (Hatta *et al.*, 2017). For this, the agricultural extension personnel should have good managerial skills

or abilities. The Agricultural Extension Personnel has to play the role of manager to get the highest output from the available resources. The managerial ability of Agricultural Extension Personnel is vital in achieving the highest output for the welfare of farming community. Realizing this, the Agricultural Extension Personnel managerial ability'' has a direct effect on the impact of farming and its developmental programme. Due to this we are studying those managerial skills or abilities and Effectiveness of Managerial Abilities of Agricultural Extension Personnel in the state of Andhra Pradesh.

Objective: Current study was undertaken with following objective-

To Study on Effectiveness of Managerial Abilities of Agricultural Extension Personnel in the state of Andhra Pradesh

METHODOLOGY

By considering above objective of the study, the current research study was conducted in Godavari Region of Andhra Pradesh State, is purposively selected. For the study ex-post facto research design is utilized, according to (Kerlinger, 1968), ex-post facto research is a systematic empirical enquiry, in which the researchers do not have direct control over variables because their manifestations have already occurred. Influence about relation among variables is made without direct intervention. The data of Agricultural Extension

Personnel was obtained from the office records of the Line Department of the state government working under Godavari region. There are 4 Different scalar levels in the Agricultural Extension Personnel, from every level 40 individuals are selected randomly 20 from every District. To make up a sample of 160 from all the four levels.

For measuring the effectiveness of managerial abilities of Agricultural Extension Personnel, the scale developed by Gardharia, HB., with suitable modifications was applied (Gardharia, 2012). The indicators and statements of the indicators are selected carefully with the help of thorough review literature and expert suggestions. A total of ten indicators namely, Planning, Organizing, Directing, Communicating, Controlling, Human Relation, Leading, Supervising, Coordinating and Decision Making were considered to study the effectiveness of managerial abilities of the agricultural extension personnel. A detailed statements of questionnaire was prepared by considering all these indicators. for this purpose, to select the effectiveness of managerial abilities of Agricultural Extension Personnel Likert scale of three-point continuum with categories viz. 'Always', 'Sometimes' and 'Never' was used. The scores assigned to these categories were 3, 2 and 1 respectively. The agricultural extension personnel were asked to respond on the interview schedule developed for the study of Effectiveness of Managerial Abilities, the response was collected, the data processed and analysed

with the help of statistical software's by using statistical tools like mean, gap percent analysis. Gap percent analysis indicates the extent to which technologies have not been adopted (Ray, 2019) and a detailed report of results and discussions with illustrated graphs and tables are presented below.

Gap analysis: It is calculated by subtracting the highest attainable score from the actual score attained and expressing it as a percentage of using the following formula:

$$\text{Gap (\%)} = \frac{\text{Maximum score} - \text{obtainable score}}{\text{Maximum score}} \times 100$$

RESULTS AND DISCUSSION

Effectiveness of Planning: The data presented in the given Table 1 and Fig. 1 depicts the Effectiveness of Planning on the Managerial Abilities of Agricultural Extension Personnel reveals that highest gap percent was exerted by Plan for utilization of funds/Budget with mean score value of 2.53 with a gap percent of 15.83% which should be rectified to improve the planning ability for effective Managerial Abilities. It is also observed from the results that, gap percent exerted by Planning as a whole is 9.61 % with mean score value of 24.41 which shows that the Agricultural Extension Personnel has good planning ability. These results are aligning with Chauhan and Chauhan (2012); Patel *et al.* (2012); Bahua (2016); Kumar *et al.* (2017).

Table 1: Effectiveness of Planning in the Managerial Abilities of Agricultural Extension Personnel.

Sr. No.	Statements	Mean Score	Gap %
1	Determination of objectives	2.72	9.38
2	Plan for transfer of technology	2.93	2.29
3	Plan for utilization of funds/Budget	2.53	15.83
4	Plan for extension work	2.79	6.87
5	Submission of report in time	2.73	9.17
6	Preparation of annual plan of work	2.57	14.38
7	Plan for monitoring of work	2.83	5.63
8	Plan for forecasting	2.69	10.21
9	Attending the farmers from time to time	2.62	12.71
	Total	24.41	9.61

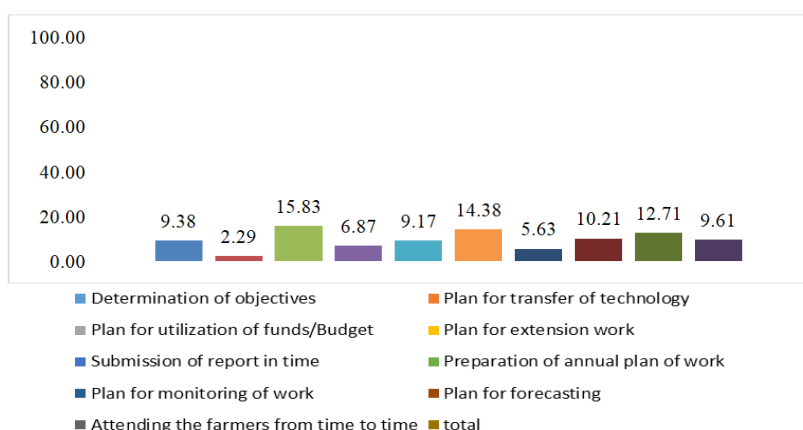


Fig. 1. Effectiveness of Planning in the Managerial Abilities of Agricultural Extension Personnel.

Effectiveness of Organizing: The data presented in the given Table 2 and Fig. 2 depicts the Effectiveness of Organizing in the Managerial Abilities of Agricultural Extension Personnel reveals that highest gap percent was

exerted by Delegation of authority according to the responsibility mean score value of 2.51 with a gap percent of 16.46% which should be rectified to improve the Organizing ability for effective Managerial Abilities.

It is also observed from the results that, gap percent exerted by Organizing as a whole is 8.99 % with mean score value of 19.11 which shows that the Agricultural

Extension Personnel has good Organizing ability. These results are aligning with Chauhan and Chauhan (2012); Patel *et al.* (2012); Bahua (2016); Kumar *et al.* (2017).

Table 2: Effectiveness of Organizing in the Managerial Abilities of Agricultural Extension Personnel.

Sr. No.	Statements	Mean Score	Gap %
1.	Provide work opportunity to the staff	2.86	4.79
2.	Invite suggestions from subordinate	2.84	5.21
3.	Arranging group meeting with farmers	2.78	7.29
4.	Division of work	2.64	12.08
5.	Arranging camp at village level	2.68	10.83
6.	Delegation of authority according to the responsibility	2.51	16.46
7.	Demonstration of improved quality of practices seed fertilizer and pesticides	2.81	6.25
	Total	19.11	8.99

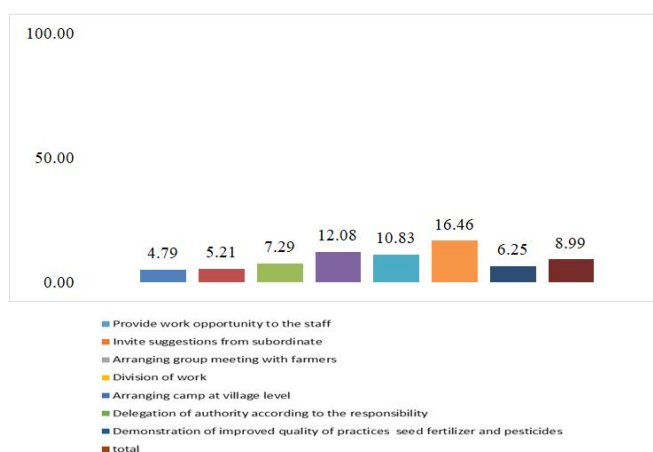


Fig. 2. Effectiveness of Organizing in the Managerial Abilities of Agricultural Extension Personnel.

Effectiveness of Directing: The data presented in the given Table 3 and Fig. 3 depicts the Effectiveness of Directing on the Managerial Abilities of Agricultural Extension Personnel reveals that highest gap percent was exerted by Give proper direct instructions mean score value of 2.69 with a gap percent of 10.42 % and Implementation of the decision mean score value of 2.69 with a gap percent of 10.42% which should be rectified

to improve the Directing ability for effective Managerial Abilities. It is also observed from the results that, gap percent exerted by Directing as a whole is 6.67 % with mean score value of 19.60 which shows that the Agricultural Extension Personnel has good Directing ability. These results are aligning with Chauhan and Chauhan (2012); Bahua (2016).

Table 3: Effectiveness of Directing in the Managerial Abilities of Agricultural Extension Personnel.

Sr. No.	Statements	Mean Score	Gap %
1.	Give clear and complete instructions	2.94	2.08
2.	Provide technical guidance	2.82	6.04
3.	Appreciation of good work	2.89	3.54
4.	Give continuous information	2.85	5.00
5.	Give credit to the person	2.73	9.17
6.	Give proper direct instructions	2.69	10.42
7.	Implementation of the decision	2.69	10.42
	Total	19.60	6.67



Fig. 3. Effectiveness of Directing in the Managerial Abilities of Agricultural Extension Personnel.

Effectiveness of Communicating: The data presented in the given Table 4 and Fig. 4 depicts the Effectiveness of Communicating on the Managerial Abilities of Agricultural Extension Personnel reveals that highest gap percent was exerted by Establishment of feed-back mechanism mean score value of 2.44 with a gap percent of 18.75 % which should be rectified to improve the Communicating ability for effective Managerial

Abilities. It is also observed from the results that, gap percent exerted by Communicating as a whole is 11.63 % with mean score value of 15.91 which shows that the Agricultural Extension Personnel has good Communicating ability. These results are aligning with Chauhan and Chauhan (2012); Utaranakorn and Yasunobu (2016); Kumar *et al.* (2017); Shah *et al.* (2021).

Table 4: Effectiveness of Communicating in the Managerial Abilities of Agricultural Extension Personnel.

Sr. No.	Statements	Mean Score	Gap %
1.	Instruction to fellow workers in time	2.70	10.00
2.	Selection of proper medium (written/oral) of communication	2.71	9.58
3.	Establishment of horizontal communication	2.66	11.46
4.	Establishment of feed-back mechanism	2.44	18.75
5.	Establishment of vertical communication	2.61	12.92
6.	Circulation of latest information to subordinate	2.79	7.08
	Total	15.91	11.63

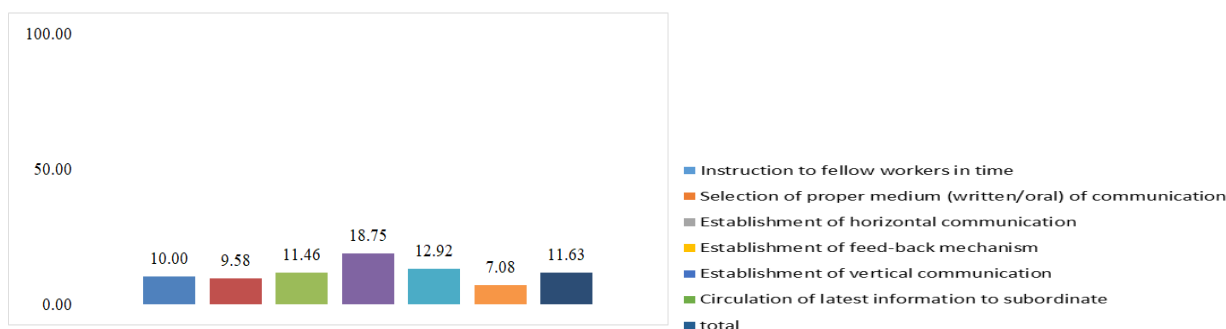


Fig. 4. Effectiveness of Communicating in the Managerial Abilities of Agricultural Extension Personnel.

Effectiveness of Controlling: The data presented in the given Table 5 and Fig. 5 depicts the Effectiveness of Controlling on the Managerial Abilities of Agricultural Extension Personnel reveals that highest gap percent was exerted by Keep a careful check on efficiency mean score value of 2.66 with a gap percent of 11.25 % which should be rectified to improve the Controlling ability for

effective Managerial Abilities. It is also observed from the results that, gap percent exerted by Controlling as a whole is 7.95 % with mean score value of 19.33 which shows that the Agricultural Extension Personnel has good Controlling ability. These results are aligning with Chauhan and Chauhan (2012); Patel *et al.* (2012); Bahua (2016); Kumar *et al.* (2017).

Table 5: Effectiveness of Controlling in the Managerial Abilities of Agricultural Extension Personnel.

Sr. No.	Statements	Mean Score	Gap %
1.	Visit to subordinate	2.77	7.71
2.	Inquiry about subordinate work	2.66	11.46
3.	Keep a careful check on efficiency	2.66	11.25
4.	Visit accurately and properly	2.81	6.46
5.	Maintain self-discipline	2.86	4.58
6.	Reporting the work done	2.92	2.71
7.	Take personal observation	2.66	11.46
	Total	19.33	7.95



Fig. 5. Effectiveness of Controlling in the Managerial Abilities of Agricultural Extension Personnel.

Effectiveness of Human Relation: The data presented in the given Table 6 and Fig. 6 depicts the Effectiveness of Human Relation on the Managerial Abilities of Agricultural Extension Personnel reveals that highest gap percent was exerted by Make personal contact with subordinate mean score value of 2.48 with a gap percent of 17.29 % which should be rectified to improve the Human Relation ability for effective Managerial

Abilities. It is also observed from the results that, gap percent exerted by Human Relation as a whole is 9.46 % with mean score value of 19.01 which shows that the Agricultural Extension Personnel has good Human Relation ability. These results are aligning with Chauhan and Chauhan (2012); Uтарanakorn and Yasunobu (2016); Kumar *et al.* (2017); Shah *et al.* (2021).

Table 6: Effectiveness of Human Relation in the Managerial Abilities of Agricultural Extension Personnel.

Sr. No.	Statements	Mean Score	Gap %
1.	Make personal contact with subordinate	2.48	17.29
2.	To deal fairly with the staff	2.69	10.42
3.	Take interest in development of juniors	2.78	7.50
4.	Providing co-operation	2.85	5.00
5.	Adopt democratic way of behaviour	2.68	10.83
6.	Understanding personality	2.74	8.54
7.	Consideration to all as a team	2.80	6.67
	Total	19.01	9.46

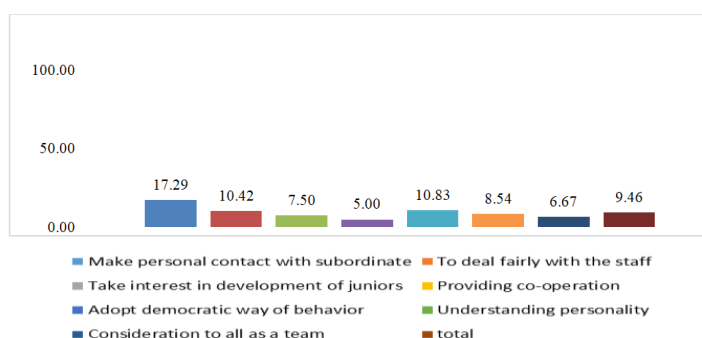


Fig. 6. Effectiveness of Human Relation in the Managerial Abilities of Agricultural Extension Personnel Effectiveness of Leading.

The data presented in the given Table 7 and Fig. 7 depicts the Effectiveness of Leading on the Managerial Abilities of Agricultural Extension Personnel reveals that highest gap percent was exerted by Convince the higher authority mean score value of 2.52 with a gap percent of 16.04 % which should be rectified to improve the Leading ability for effective Managerial Abilities. It is

also observed from the results that, gap percent exerted by Leading as a whole is 8.18 % with mean score value of 19.28 which shows that the Agricultural Extension Personnel has good Leading ability. These results are aligning with Lu (2011); Chauhan and Chauhan (2012); Uтарanakorn and Yasunobu (2016); Shah *et al.* (2021).

Table 7: Effectiveness of Leading in the Managerial Abilities of Agricultural Extension Personnel.

Sr. No.	Statements	Mean Score	Gap %
1.	Promote team work	2.88	4.17
2.	Developing high group morale	2.83	5.63
3.	Convince the higher authority	2.52	16.04
4.	Inspiration to subordinate	2.74	8.75
5.	Choosing right person for each job	2.76	7.92
6.	Motivation of the staff for work	2.78	7.50
7.	Maintaining discipline in the groups	2.78	7.29
	Total	19.28	8.18

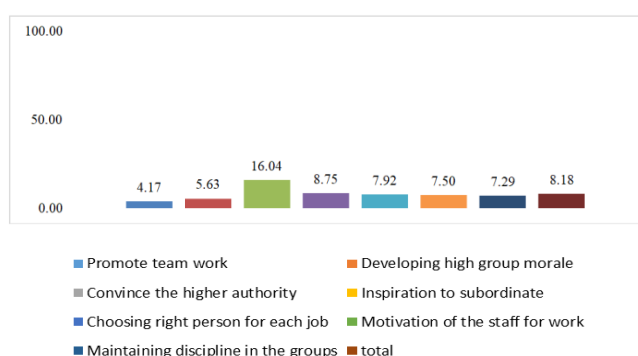


Fig. 7. Effectiveness of Leading in the Managerial Abilities of Agricultural Extension Personnel.

Effectiveness of Supervising: The data presented in the given Table 8 and Fig. 8 depicts the Effectiveness of Supervising on the Managerial Abilities of Agricultural Extension Personnel reveals that highest gap percent was exerted by Take personal interest mean score value of 2.58 with a gap percent of 14.17 % which should be rectified to improve the Supervising ability for effective

Managerial Abilities. It is also observed from the results that, gap percent exerted by Supervising as a whole is 8.37 % with mean score value of 16.49 which shows that the Agricultural Extension Personnel Extension Personnel has good Supervising ability. These results are aligning with Chauhan and Chauhan (2012); Kumar *et al.* (2017).

Table 8: Effectiveness of Supervising in the Managerial Abilities of Agricultural Extension Personnel.

Sr. No.	Statements	Mean Score	Gap %
1.	Provide skilful/learned advice	2.73	9.17
2.	Give suggestions properly	2.88	3.96
3.	Focus on practical skills	2.78	7.29
4.	Focus on quality of work	2.87	4.38
5.	Take personal interest	2.58	14.17
6.	Supervision and evaluation of the work of subordinate	2.66	11.25
	Total	16.49	8.37

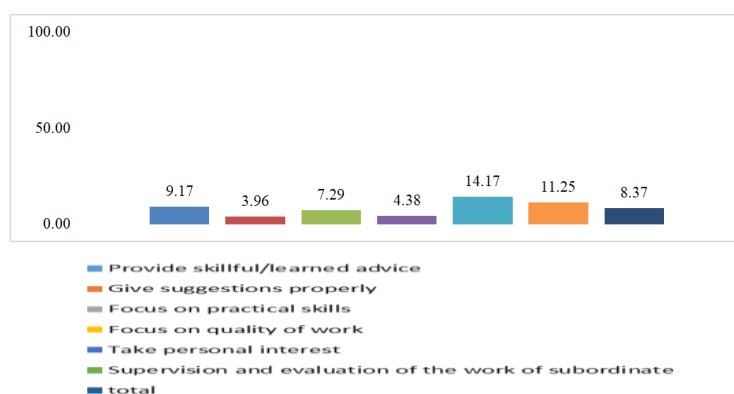


Fig. 8. Effectiveness of Supervising in the Managerial Abilities of Agricultural Extension Personnel.

Effectiveness of Coordinating: The data presented in the given Table 9 and Fig. 9 depicts the Effectiveness of Coordinating on the Managerial Abilities of Agricultural Extension Personnel reveals that highest gap percent was exerted by Get co-operation from outside mean score value of 2.21 with a gap percent of 26.46 % which should be rectified to improve the Coordinating ability for

effective Managerial Abilities. It is also observed from the results that, gap percent exerted by Coordinating as a whole is 17.38% with mean score value of 17.35 which shows that at the Agricultural Extension Personnel has good Coordinating ability. These results are aligning with Lu (2011); Chauhan and Chauhan (2012); Patel *et al.* (2012); Kumar *et al.* (2017).

Table 9: Effectiveness of Coordinating in the Managerial Abilities of Agricultural Extension Personnel.

Sr. No.	Statements	Mean Score	Gap %
1.	Co-ordination with other department	2.66	11.46
2.	Integration of work	2.53	15.83
3.	Get co-operation from out side	2.21	26.46
4.	Call a group meeting	2.53	15.63
5.	Co-ordination through supervision	2.49	16.88
6.	Co-ordination in time with other	2.43	19.17
7.	Become a dynamic	2.51	16.25
	Total	17.35	17.38

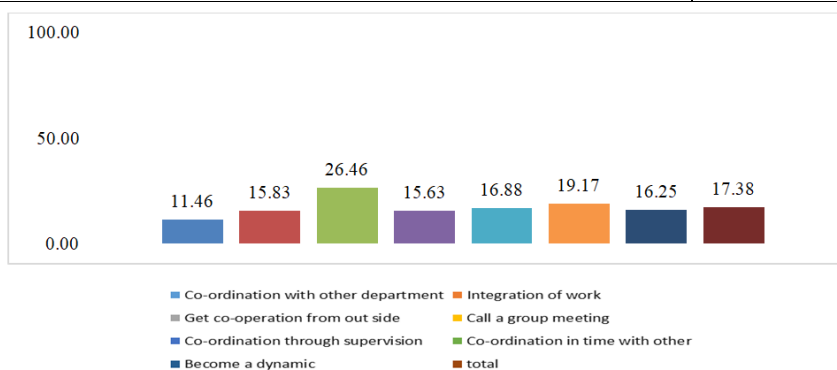


Fig. 9. Effectiveness of Coordinating in the Managerial Abilities of Agricultural Extension Personnel.

Effectiveness of Decision Making: The data presented in the given Table 10 and Fig. 10 depicts the Effectiveness of Decision Making on the Managerial Abilities of Agricultural Extension Personnel reveals that highest gap percent was exerted by Basic and routine decision mean score value of 2.21 with a gap percent of 26.46 % which should be rectified to improve the Decision-Making ability for effective Managerial

Abilities. It is also observed from the results that, gap percent exerted by Decision-Making as a whole is 15.57 % with mean score value of 17.73 which shows that the Agricultural Extension Personnel has good Decision-Making ability. These results are aligning with Lu (2011); Chauhan and Chauhan (2012); Patel *et al.* (2012); Kumar *et al.* (2017); Shah *et al.* (2021).

Table 10: Effectiveness of Decision Making in the Managerial Abilities of Agricultural Extension Personnel.

Sr. No.	Statements	Mean score	Gap %
1.	Decision at proper time	2.60	13.33
2.	Find the facts for decision	2.64	11.88
3.	Implementation of the decision	2.66	11.25
4.	Bias less decision	2.56	14.58
5.	Individual decision	2.35	21.67
6.	Basic and routine decision	2.21	26.46
7.	Identification and analysis of the problem	2.71	9.79
	Total	17.73	15.57

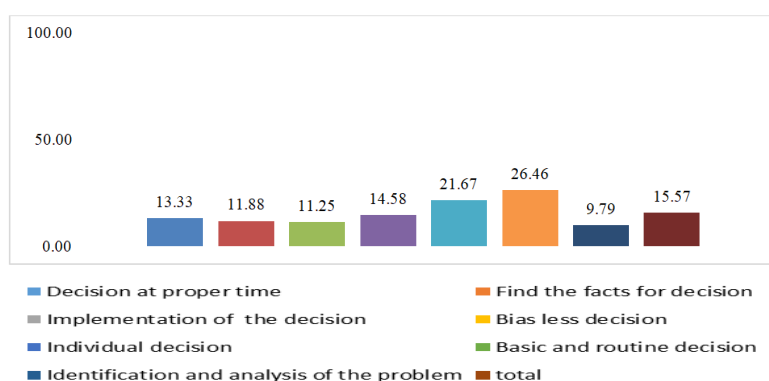


Fig. 10. Effectiveness of Decision Making in the Managerial Abilities of Agricultural Extension Personnel.

CONCLUSIONS

From the results and discussion, it is found that highest gap percent was exerted In planning, by Plan for utilization of funds/Budget; In Organizing, by Delegation of authority according to the responsibility; In Directing, by Give proper direct instructions; In Communicating, by Establishment of feed-back mechanism; In Controlling, by Keep a careful check on efficiency; In Human Relation, by Make personal contact with subordinate; In Leading, by Convince the higher authority; In Supervising, by Take personal interest; In Coordinating, Get co-operation from outside; and In Decision Making, by Basic and routine decision. for effective Managerial Abilities these problems should be addressed and necessary steps should be taken.

And also gap percent exerted by Planning as a whole is 9.61 %, Organizing as a whole is 8.99 %, Directing as a whole is 6.67 %, Communicating as a whole is 11.63 %, Controlling as a whole is 7.95 %, Human Relation as a whole is 9.46 %, Leading as a whole is 8.18 %, Supervising as a whole is 8.37 %, Coordinating as a whole is 17.38% and Decision-Making as a whole is 15.57 % from these results we can conclude that the managerial abilities of agricultural extension personnel are good. But to increase the efficiency of agricultural extension personnel and effectiveness of their Managerial Abilities we should give some more focus on

improving Coordinating and Decision-Making abilities of agricultural extension personnel.

FUTURE SCOPE

The Study on Effectiveness of Managerial Abilities of Agricultural Extension Personnel will help the state governments and central governments to make detailed research work on the managerial abilities and efficiency of agricultural extension personnel at different levels and will help them to frame an integrated framework for improvement of their managerial abilities or efficiency by conducting different trainings, workshops and other developmental sessions. This study can be utilised to study the Effectiveness of Managerial Abilities of agricultural allied sectors extension personnel also.

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Conflict of Interest. None.

REFERENCES

- Bahua, M. I. (2016). Assessing Professional Competencies of Agricultural Extension Workers: A Case Study of Indonesian's Agribusiness Sector. *International Journal of Agriculture Innovations and Research*, 4(4), 743-746.
- Chauhan, N. M. and Chauhan, N. B. (2012). Managerial Ability of the Programme Coordinators of Krishi

- Vigyan Kendras of India. *Indian Research Journal of Extension Education*, 12(3), 42-47.
- Gardharia, H. B., Popat, M. N. and Gohil, G. R. (2012). To Study the Managerial Ability of Veterinary Officers. *Gujarat Journal of Extension Education*, 23, 9-12.
- Hatta, J. M., Jahi, A., Arsyad, M., Sarma, M., Gusti, P. P. I., Viantika, N., Nadja, R. A., Nixia, T. A. and Bahua, M. I. (2017). Determinants Factors of Agricultural Extension Services Performance and Impacts on Farmers' Behavior. *American Journal of Agricultural and Biological Sciences*, 12 (1), 33-38.
- Ison, R and Russell, D. (2000). *Agricultural Extension and Rural Development: Breaking Out of Knowledge Transfer Traditions*. Cambridge University.
- Kerlinger, N. F. (1968). *Foundations of Behavioural Research*. Surjeet Publications. New Delhi.
- Kumar, A., Pawariya, V. and Singh, R. (2017). Managerial Ability of Lime Growers about Recommended Cultivation of Lime in Rajasthan. *International Journal of Agricultural Science and Research*, 7 (2), 155-162.
- Lu, J. (2011). Evaluation of Enterprise Human Resources Comprehensive Abilities Based on Managerial Psychology. *Procedia Engineering*, 16, 564 – 571.
- Ogunsumi, L. O. and Abegunde, B. O. (2011) Evaluation of agricultural extension and delivery services in southwest Nigeria. *International Journal of Agricultural Science*, 1(4), 581-591.
- Patel, D. D., Joshi, P. J. and Patel, P. P. (2012). Management Efficiency of Rose Growers towards Improved Rose Cultivation. *Gujarat Journal of Extension Education*, 23, 139-140.
- Ray, G. L. (2019). *Adoption and diffusion of innovations, Extension communication and Management*. Page.no.180. Kalyani Publishers.
- Shah, J.A., Rahman, M. F. H. A. and Haris, N. B. M. (2021). Influence of Human Resource Development Skills towards Work Performance of Agriculture Extension Agents. *Advances in Agricultural and Food Research Journal*, 2(1), 1-17.
- Utaranakorn, P. and Yasunobu K. (2016). The mutual influence of managerial ability and social networks of farmers on participation in an organic vegetable group in Khon Kaen province, Thailand. *Kasetsart Journal of Social Sciences*, 37, 127-131.

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