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Research Article

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Knowledge and Attitude of Farmers towards Pesticides Use in Paddy Crop of Ahmedabad District

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ABSTRACT

India is second largest populated country and also keep pace with population growth, there is a continuing need to increase food production, Apart from High Yielding Seeds, chemical fertilizers, irrigation; pesticides played a very important role in enabling the increase food production. The paper aim to study knowledge and attitude of farmers towards pesticide use in paddy crop of Ahmedabad district. For that two hundred respondents selected for the study. The study conclude that medium to low level of knowledge about optimal use of pesticides and moderately favourable attitude towards the use of pesticides, the age, education, farming experience were positively, highly and significantly correlated with their knowledge about use of pesticides. The land holding, annual income were positively and highly significantly correlated with attitude toward use of pesticides.

Key words: *Knowledge, Attitude, Correlation, Significant, Pesticide use.*

INTRODUCTION

Agriculture is the backbone of India. More than 60-65 per cent of people depend directly or indirectly upon agriculture. The role of agriculture in the economic development of the India cannot be under estimated, as the largest segment of population is wedded to agriculture and it accounts for nearly half of the national income. To keep pace with population growth, there is a continuing need to increase food production, Apart from High Yielding Seeds, chemical fertilizers, irrigation; pesticides played a very important role in enabling the increase food production. The term pesticide covers a wide range of compounds including insecticides, fungicides, herbicides, rodenticides, molluscicides, nematicides, plant growth regulators and others.

In India, the consumption of pesticide is about 4.00 percent of the global consumption. Per hectare consumption of pesticide in the country is 460 gm, but in years to come it may further increase. Keeping this in view, plant protection measures are most effective practices in agriculture. Poor plant protection is a major cause for low yield in crops.

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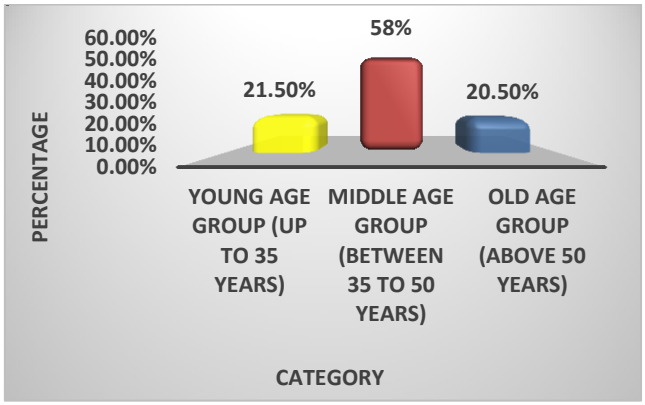
It is essential that after using all the inputs such as hybrid seeds, irrigation, fertilizers, insecticides, pesticides, fungicides etc., we should protect our crops from ravage of pests. Knowledge is a familiarity, awareness or understanding of someone or something, such as facts, information, descriptions, or skills, which is acquired through experience or education by perceiving, discovering, or learning. Attitude can be described as a tendency to react positively or negatively to a person or circumstances.

MATERIAL AND METHOD

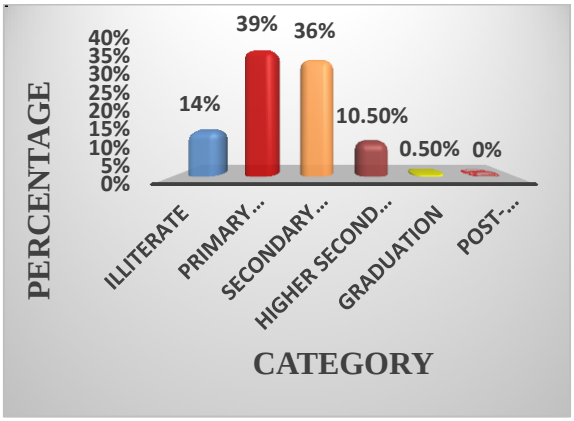
Descriptive research design was used in the study. The study was conducted in Ahmedabad district of middle Gujarat region. This district was selected purposively, because of maximum production of paddy grower in Ahmedabad area. Ahmedabad district is consist of five talukas, from each talukas Four villages are selected, 10 respondents were selected from all villages, Thus, total 200 farmers selected as respondents purposively. The data collected through structured questionnaires by face to face interview and then data were processed for further analysis. The following statistics were used in the study. Percentage, Arithmetic Mean and Standard Deviation, Mean, Standard Deviation, Co-efficient of correlation (r).

RESULT AND DISCUSSION

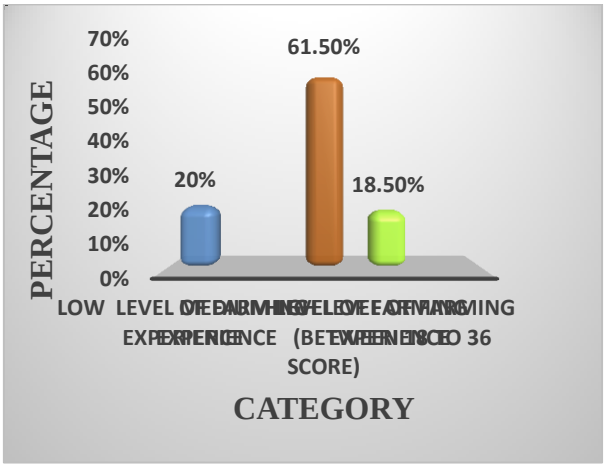
To identify the profile of the respondents was one of the objectives of the present study. Some of the important characteristics of the respondents like age, education, farming experience, land holding, occupation, and annual income were selected and studied. The findings have been tabulated, analysed and presented in different groups like socio-personal, economic characteristics of the respondents.



The distributional analysis pertaining to age of the respondent that More than half of the respondents belonged to the middle age group (35-50 years) followed by young age group (up to 35 years)and old age group (Above 50 years) respectively.

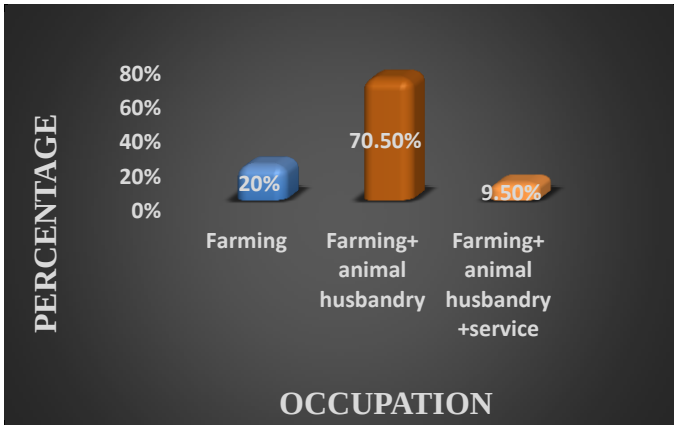


It is evident from the data, more (39 per cent) of the respondents were found to have primary level education. The respondents from secondary and illiterate group were to the extent of 36 per cent and 14 per cent development, respectively. Only insufficient percentages (10.5 per cent, 0.5 per cent and 0 per cent) of the respondents were found having higher secondary, graduation and post-graduation level education.

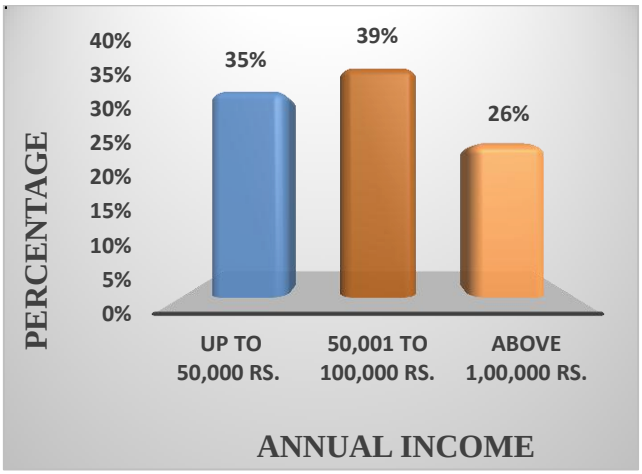


The data disclosed that majority (61.5 per cent) of the respondents had medium farming experience whereas, 20 per cent and 18.5 per cent of them had low and high farming experience respectively. This might be due to that they did not get chance to work in other fields than agriculture.

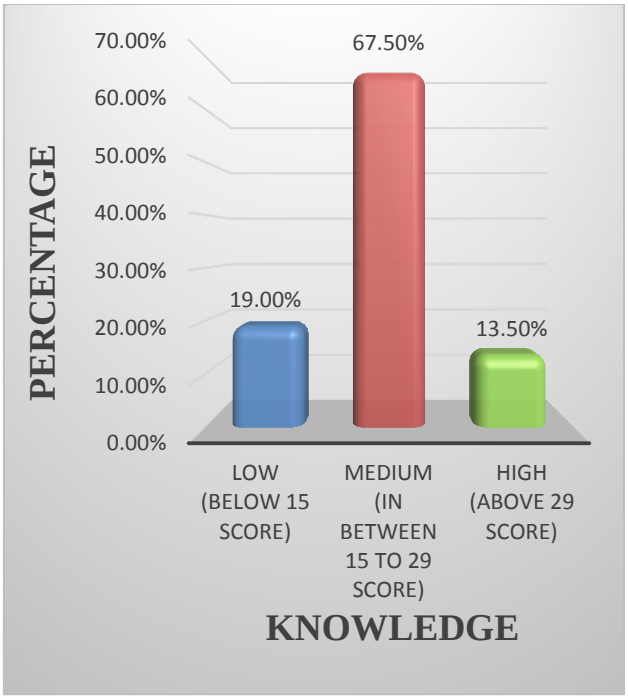
The data reveal that majority (66.5 per cent) of the respondents were found to have small size (up to 2 ha) of land holding. The respondents having marginal (2.01 to 5.00) and big land holding (above 5 ha) were 28.5 per cent and 5 per cent, respectively.



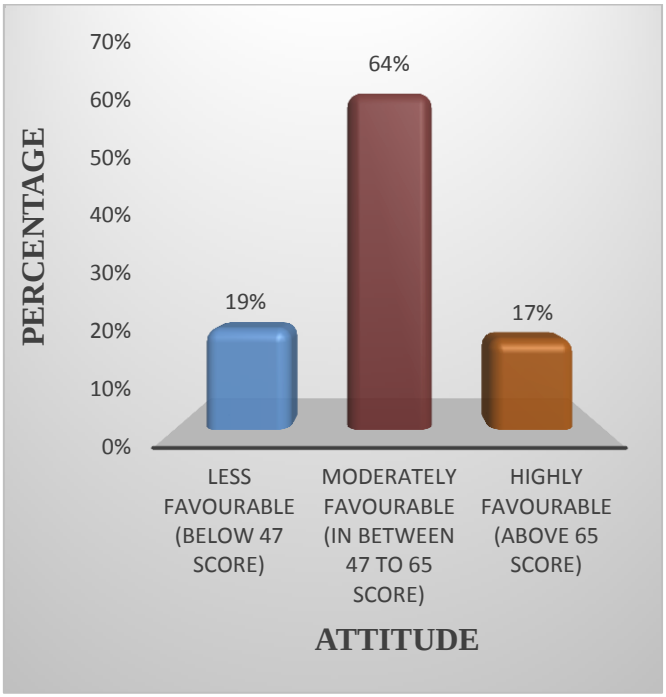
It was observed from the data that nearly three fourth (70.50 per cent) of the respondents were dependent on farming along with animal husbandry for their livelihood, whereas 20 per cent and 9.5 per cent of them were dependent on farming only and farming along with animal husbandry with service, respectively. It means majority of the respondents in study area were dependent on one or more than one subsidiary occupation along with farming as major occupation.



On perusal of the data revealed that two fifth (39 per cent) of the respondents had medium level of annual income *i.e*. Rs. 50,001 to 100,000 followed by low (35 per cent) and high (26 per cent) annual income group respectively.



It is cleared from data that slight more than two-third (67.50 per cent) of the respondents had medium level of knowledge about use of pesticides, followed by low and high level of knowledge with 19.0 per cent and 13.50 per cent, respectively. On the basis of results, it can be concluded that a large majority (86.5 per cent) of the respondents were found with medium to low level of knowledge about optimal use of pesticides. The probable reason for above finding may be due to medium farming experience.



The data presented that nearly three-fourth (64 per cent) of the respondents were having moderately favourable attitude towards the use of pesticides, followed by 19 per cent with less favourable and 17 per cent of the respondents had highly favourable attitude towards the use of pesticides. This might be due to the reason that they can get quick and effective pest control by using pesticide, which in turn might have played a major role in building up favourable attitude among respondents towards use of pesticides. The relationship between personal characteristics of the respondents *viz.*, age, education, farming experience, land holding, occupation, annual income with level of knowledge were worked out with the help of coefficient of correlation.

Title: Relationship between personal characteristics of respondents and their knowledge about optimal use of pesticides

Sr.	Independent Variables	Correlation Coefficient ('r' value)
1	Age	0.826**
2	Education	0.179**
3	Farming Experience	0.847**
4	Land holding	-0.052^{NS}
5	Occupation	0.001*
6	Annual income	-0.028^{NS}

Where, NS = non-significant, * = significant at 0.05 and ** = significant at 0.01 level of probability.

The data manifested in table revealed that the age (0.826**), education (0.179**), farming experience (0.847**), were positively and highly significantly correlated with knowledge about use of pesticides. On the other hand occupation (0.001*) were found non-significant whereas land holding (-0.052NS) and annual income (-0.028NS) were found negatively correlated with knowledge about use of pesticides.

The relationship between personal characteristics of the respondents *viz.*, age, education, farming experience, land holding, occupation, annual income with their attitude toward use of pesticides were worked out with the help of coefficient of correlation.

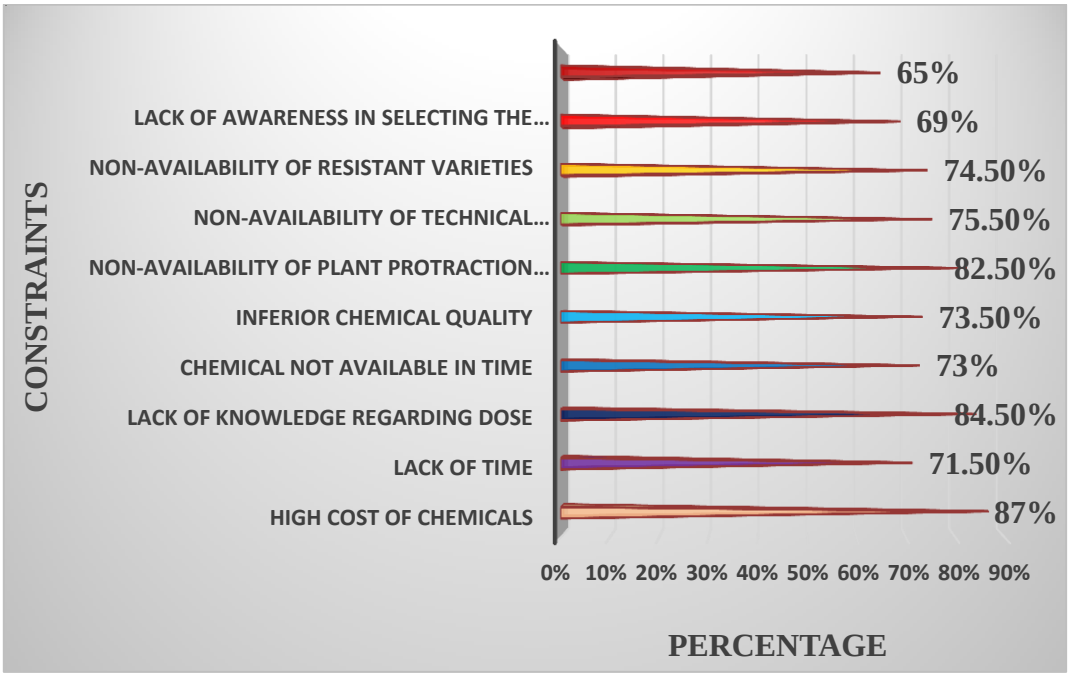
Title: Relationship between personal characteristics of respondents and their attitude towards the use of pesticides

Sr.	Independent Variables	Correlation Coefficient ('r' value)
1	Age	-0.007^{NS}
2	Education	0.240*
3	Farming Experience	-0.05^{NS}
4	Land holding	0.524**
5	Occupation	-0.510^{NS}
6	Annual income	0.716**

Where, NS = non-significant, * = significant at 0.05 and ** = significant at 0.01 level of probability

The data manifested in table revealed that the land holding of respondents (0.524**), annual income (0.716**) were positively and highly significantly correlated with attitude toward use of pesticides. However, mass education (0.240*) was found positive and significantly correlated with attitude toward use of pesticides. On the other hand age (-0.007NS), farming experience (-0.05NS) and occupation (-0.510NS) were found non-significant and negatively correlated with attitude toward use of pesticides.

Constraints in this study was operationalized as the item of difficulties faced by the respondents in use of pesticides. During the course of the present investigation, the respondents expressed many constraints. Out of these, total 10 constraints which perceived by the farmers as more impeding were identified for the study. All the constraints were ranked on the basis of percentage worked out. The findings are presented in below chart.



The data depicted graphically make it clear that major constraints faced by majority respondents (87.33 per cent) was high cost of chemicals, the other important constraints viz., lack of knowledge regarding dose (84.5 per cent), non-availability of plant protraction appliance (82.5 per cent), non-availability of technical guidance at a time (75.5 per cent), non-availability of resistant varieties (74.5 per cent), inferior chemical quality (73.5 per cent), chemical not available in time (73 per cent), lack of time (71.5 per cent), lack of awareness in selecting the correct pesticides for a pest or diseases 69 per cent) and lack of awareness in

usage, repair and maintenance of plant protection equipment's (65 per cent).

Hence, it can be concluded that main constraints experienced by respondents in use of pesticides in are.

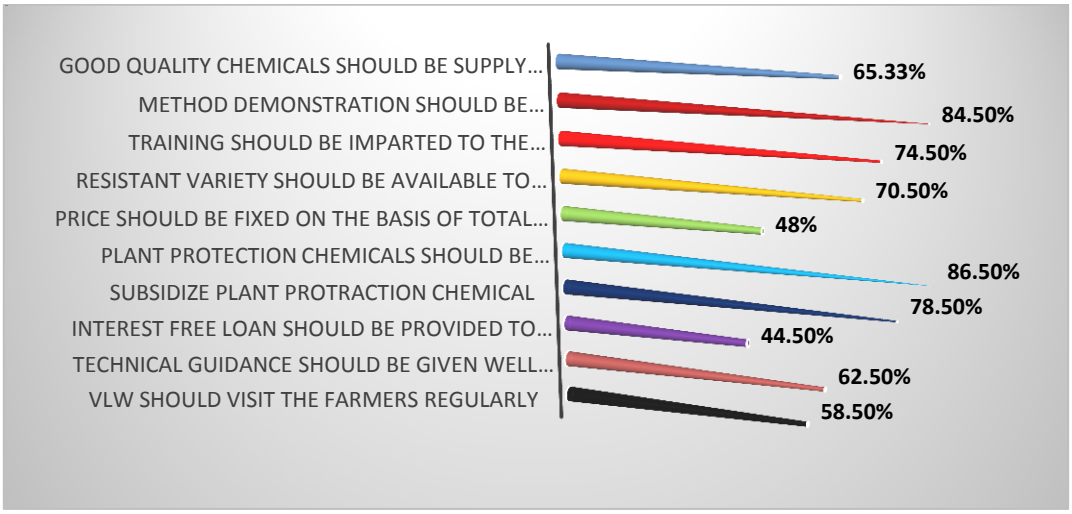
I. High cost of chemical

II. Lack of knowledge regarding dose

III. Non-availability of plant protraction appliance and

IV. Non-availability of technical guidance at a time.

The information was also collected regarding the suggestion given by the respondents to overcome the constraints faced by them. Important suggestions are presented in below graph.



It was evident from graph that, plant protection chemicals should be provided at reasonable rates was main suggestion given by the great majority (86.5 per cent) of the respondents and ranked first. Others were method demonstration should be organized for the effective use of pesticides (84.5 per cent), subsidy on plant protraction chemical (78.5 per cent), training should be imparted to the farmers regarding the use of pesticides before starting the season (74.5 per cent), resistant variety should be available to the farmers (70.5 per cent), good quality chemicals should be supply to farmers (65.5), technical guidance should be given well in advance before starting the season (62.5 per cent), VLW should visit the farmers regularly (58.5 per cent), price should be fixed on the basis of total expenditure (48.00 per cent), interest free loan should be provided to the farmers (44.5 per cent), according to their rank respectively.

Hence, it can be concluded that main suggestions given by the respondents to overcome the constraints faced by them in use of pesticides were.

I. Plant protection chemicals should be provided at reasonable rates

II. Method demonstration should be organized for the effective use of pesticides.

III. Subsidy on plant protraction chemical should be provided.

CONCLUSION

Pesticides is the most important and basic input component for productive agriculture. The role of the pesticides sector has been substantial in India. The expansion of pesticides industry has occurred in parallel with the growth in agricultural productivity. From the study, it could be concluded that Ahmedabad district is Agricultural based district and its paddy, cotton, wheat growing belt of Gujarat. There is a huge market for pesticides in Ahmedabad district.

The present study concludes that among the selected farmers, most of the farmers are small

and marginal. In present scenario, to overcome problem of high cost of living, respondents were dependent on farming along with animal husbandry for their livelihood. In this study, it was found that most of the farmers were middle age, literate and having farming experience, on the basis of the above results, it can be concluded that majority of the respondents were found medium to low level of knowledge and medium to low level of attitude about use of pesticides. To overcome this needs to create awareness among the farmers by arranging the activities to increase knowledge and attitude like training programmes, field demonstration & providing appropriate knowledge about product use guidance by appointing the marketing officer in the study area.

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