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## Assessment of demographic factors on knowledge, attitude and practice levels of farm families towards crop diversification

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### Abstract

Crop diversification provides the farmers with a wider choice in the production of a variety of crops in a given area so as to expand production-related activities on various crops and also to bring down the possible risk. Crop diversification provides an opportunity to double farmer's income and create food security for the nation. The present study was aimed at studying the knowledge, attitude and practice levels of farm families towards crop diversification. A total of 150 respondents were chosen for the study from five All India Coordinated Research Project (AICRP)-adopted villages in Ranga Reddy district. A structured questionnaire was used for the study. The findings revealed that the majority of the farmwomen had low knowledge, attitude, and practice levels on crop diversification.

**Keywords:** Crop diversification, farm women, KAP levels, farmers' income, sustainable agriculture

### Introduction

Crop Diversification refers to a shift from the regional dominance of one crop to regional production of a number of crops, to meet ever increasing demand of cereals, pulses, vegetables, fruits, oilseeds, fibers, fodder, grasses etc. It aims to improve soil health and to maintain dynamic equilibrium of the Agro-ecosystem.

Crop diversification provides the farmers with a wider choice in the production of a variety of crops in a given area so as to expand production related activities on various crops and also to bring down the possible risk. Crop diversification in India is generally viewed as a shift from traditionally grown less remunerative crops to more remunerative crops. The crop diversification is also taking place due to government policies, subsidies, and thrust on some crops, market reforms, infrastructure development, certain other price related support mechanisms, higher profitability and stability in production. Diversification strategy can be planned to help poverty alleviation, environment conservation and employment generation. The crop diversification will result in sustainable agriculture, food and nutritional security, optimal resource use (Chand, 1996) [2]. The crop diversification towards high value crops, is an effective strategy in raising income, generating employment opportunities and alleviating poverty among small and marginal farmers (Sharma, 2005) [6]. Crop diversification can also be a viable strategy to improve farm-level crop productivity in moisture-stressed, ecologically fragile agriculture systems (Di Falco, 2009; Acharya *et al.*, 2011) [3, 1]. It is intended to promote technological innovations for sustainable agriculture and enable farmers to choose crop alternatives for increased productivity and income (Mallick and Pattanayak, 2107) [5].

### Need of crop diversification

Crop diversification has become an important option to attain several objectives *viz.*

- Natural resources sustainability
- Ecological balance
- Output growth
- Buffer stocks
- Employment generation
- Risk coverage: Mono cropping high risk, etc.

**Methodology**

An ex post facto research design was used for the study. A total of 150 respondents were chosen for the study. The respondents were selected from the five adopted village of All India Coordinated Research Project on Women in Agriculture (AICRP on WIA) from Hyderabad. A structured

questionnaire was used for the study. It consisted of profile characteristics and KAP levels towards crop diversification. The collected data were analyzed using Statistical Package for the Social Sciences (SPSS), version 16.0 software.

**Results and Discussion****Table 1:** Profile characteristics of the respondents

Profile characteristics	Categories	Respondents	
		Frequency	Percentage
Age	26-38	71	47.33
	38-50	69	46.00
	50-62	10	6.67
Education	Illiterate	49	32.67
	Primary School	26	17.33
	Middle School	29	19.33
	High School	25	16.67
	Intermediate/Diploma	16	10.67
	Graduation & Above	5	3.33
Occupation	Agriculture	99	66
	Agriculture labour	51	34
Family type	Nuclear family	132	88
	Joint family	15	10
	Extended family	3	2
Family Size	Small family	48	32.00
	Medium family	97	64.67
	Large family	5	3.33
	Very large family	0	0.00
Landholding	No land	0	0
	Marginal holding	74	49.33
	Small holding	55	36.67
	Semi-medium holding	19	12.67
	Medium holding	2	1.33
	Large holding	0	0.00
Annual income	Low	79	52.67
	Medium	57	38.00
	High	14	9.33
Mass media exposure	Low	31	20.67
	Medium	77	51.33
	High	42	28.00
Extension Contact	Low	18	12.00
	Medium	73	48.67
	High	59	39.33
Sources of information	Low	36	24.0
	Medium	72	48.0
	High	42	28.0
Social participation	Low	41	27.33
	Medium	85	56.67
	High	24	16.00
Farming experience	<5 years	8	5.33
	5-10 years	28	18.67
	10-15 years	49	32.67
	15-20 years	41	27.33
	>20 years	24	16.00
Training	1 time	109	72.67
	2 times	22	14.67
	3 times	11	7.33
	4 times	8	5.33
Market orientation	Low	28	18.67
	Medium	69	46.00
	High	53	35.33
Risk orientation	Low	21	14.00
	Medium	85	56.67
	High	44	29.33

The above table-1 presents the details of profile characteristics of the respondents. It was revealed from table (1) that majority of the respondents (47.33%) of the

respondents belonged to 26-38 years of age group, followed by 38-50 years of age group (46.00%) and 50-62 years of age group (6.67%). With regard to the education levels of the

respondents majority 32.67% of the respondents were illiterates, followed by middle school education (19.33%), primary school education (17.33%), high school education (16.67%), Intermediate/diploma (10.67%) and Graduation &above (3.33%). It was noticed from the table 1 that majority (66%) of the respondents occupation was agriculture farming remaining were agricultural laborers (34%). With regard to family type, most (88%) of the respondents were nuclear families, followed by joint (10%) and extended families (2%), while 64.67 per cent of the respondents with medium family size, followed by small (32.00%) and large (3.33%). It was noticed from the table 1 that majority of the respondents (49.33%) had marginal land holdings, followed by small land holdings (36.67%), Semi-medium holdings (12.67%) and medium land holdings (1.33%). With regard to annual income of the respondents majority of the respondents were in low income category (52.67%), followed by medium (38.00%) and high income category (9.33%).

It was observed from the table 1 that majority of the respondents had a medium level of mass media exposure (51.33%), followed by high (28.00%) and low (20.67%). With regard to extension contact, majority of the respondents had a medium level of extension contact (48.67%), followed by high (39.33%) and low (12%). With regard to sources of information, majority of the respondents were in medium level (48%), followed by high (28%) and low (24%). With regard to social participation majority of the respondents were in medium level (56.67%), followed by low (27.33%) and

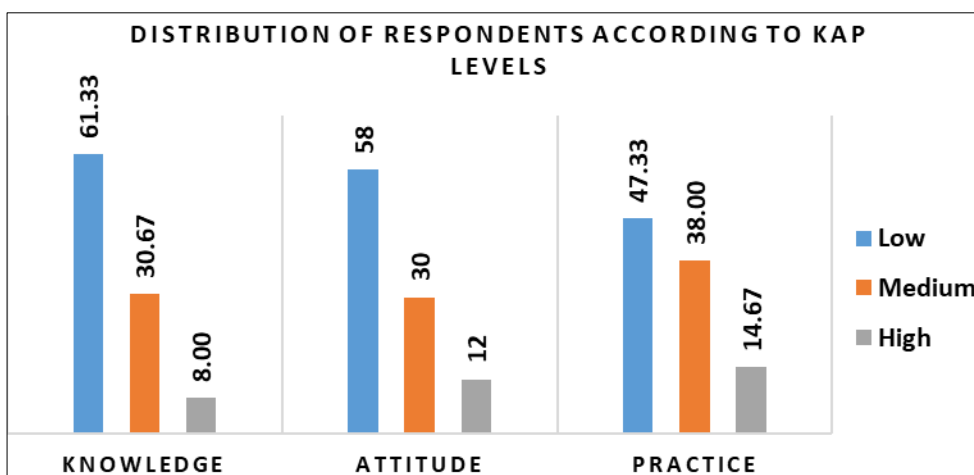
high (16.00%). In terms of farming experience, majority (32.67%) of the respondents had 10-15 years of the farming experience, followed by 15-20 years (27.33%), 5-10 years (18.67%), >20 years (16.00%) and <5 years (5.33%).

It was noticed from the table 1 that majority of the respondents received one time training (72.67%), followed by two times (14.67%), three times (7.33%) and four times (5.33%). It was noticed from the table 1 that majority of the respondents had medium market orientation (46.00%), followed by high (35.33%) and low (18.67%). With regard to risk orientation majority of the respondents had medium risk orientation (56.67%), followed by high (29.33%) and low (14.00%).

**Table 2:** Distribution of respondents according to KAP levels

	Knowledge	Attitude	Practice
Low	61.33	58.00	47.33
Medium	30.67	30.00	38.00
High	8.00	12.00	14.67

It was witnessed from the table 2 that, majority (61.33%) of the respondents were in low knowledge level, followed by medium (30.67%) and high (8.00%), with regard to attitude majority (58%) of the respondents were in low level, followed by medium (30%) and high (12%), while in Practice majority (47.33%) of the respondents were in low level, followed by medium (38%) and high (14.67%).



**Fig 1:** Distribution of respondents according to KAP levels

**Table 4:** Computed Pearson Correlation Coefficient between the selected characteristics of the farmers and their knowledge, attitude and practice on KAP levels towards crop diversification

Selected characteristics	Pearson Correlation Coefficient (r)		
	Knowledge	Attitude	Practice
Age	.008	.158	.087
Education	.133	.121	.091
Occupation	.186*	.063	.160
Family type	.105	.169*	.037
Family size	.102	-.075	.049
Land holding	.080	.178*	.080
Annual income	.101	.004	.020
Mass media	.077	.134	.083
Extension contact	.107	.116	.041
Sources of information	.153	.196*	.198*
Social participation	.017	.102	.055
Farming experience	.228**	.166*	.169*
Training received	.093	.132	.054
Market orientation	.281**	.177*	.182*
Risk orientation	.236**	.164*	.184*

To explore the relationships between the selected characteristics and their knowledge, attitude and practice on crop diversification, Pearson Coefficient of Correlation ( $r$ ) was used. Among the selected characteristics; occupation ( $p < 0.05$ ), farming experience ( $p < 0.01$ ), market orientation ( $p < 0.01$ ) and risk orientation ( $p < 0.01$ ) showed a positive significant relationship with knowledge; while family type ( $p < 0.05$ ), land holding ( $p < 0.05$ ), sources of information ( $p < 0.05$ ), farming experience ( $p < 0.05$ ), market orientation ( $p < 0.05$ ) and risk orientation ( $p < 0.05$ ) showed a positive significant relationship with attitude; furthermore sources of information ( $p < 0.05$ ), farming experience ( $p < 0.05$ ) market orientation ( $p < 0.05$ ) and risk orientation ( $p < 0.05$ ) showed a positive significant relationship with practice levels of the respondents. A study conducted by Gosh (2013) <sup>[4]</sup> concluded that crop diversification was determined by a set of socio economic and infrastructural factors. The larger the farm size is the greater the possibility of crop diversification and access to institutional credit.

### Conclusion

Crop diversification is one of the most cost-effective way of reducing uncertainties in farmer's income, especially among poor smallholder farmers. The results of the study revealed that majority (75.33%) of the respondents were low in knowledge, attitude (58%) and Practice (47.33%) levels.

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