ANALYSIS ON ADOPTION OF BLACKGRAM GROWERSIN PERIYAR VAIGAI COMMAND AREA OF MADURAI DISTRICT

ABSTRACT

The IAM Project will bring the policy and institutional development achieved under IAMWARM project to a new level and will serve as the key vehicle for implementing the Tamil Nadu Government agenda in further enhancing water and agriculture productivity in a sub basin framework. Madurai District of Tamil Nadu was purposively selected for this study because Tamil Nadu Irrigated Agriculture Modernization Project was conducted under Tamil Nadu Agricultural University. The foremost objective of the study was~~is~~ to assess the adoption level of respondents in study area.Majority of the TN-IAMP beneficiaries (81.70 per cent) were had medium level of adoption followed by nearly less than one-sixth of the total beneficiaries (15.80 per cent) were possess low adoption and meagre per cent (2.50 per cent) of the beneficiaries were had high level of adoption rate in this study.

Key words: *Irrigated Agriculture Modernization Project, Adoption~~,~~.*

Introduction

Agriculture interventions will form an integral part of sub-basin Water Resources Department (WRD) and~~&~~ Detailed Project Report (DPR's) for rehabilitation and modernization of tanks and irrigation water delivery systems. Commodity groups of farmers anchored in WUAs will be mobilized and federated as producer association/companies for undertaking commercial activities. These groups will be the focal points for dissemination of improved technologies for increasing crop, horticulture, and livestock and fish productivity. The objective of this component is to address irrigation and Water management, covering both supply and demand aspects.

Comment [p1]: 1. Consider revising the title taking care of the objectives
2. Results should be re analysed and results presented properly giving p-values

Comment [p2]: Abstract as a whole is not properly done consider give brief summary of the following in the abstract
1. Brief introduction – lines
2. the problem being addressed1-2 lines
3.Objective of the study
4.Variables being tested
5.Study method
6.Data analysis method
7.Results (Key findings)
8.Conclusion and recommendation

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The support envisaged under the project would cover policy and institutional strengthening. This study will be much useful to researcher, extension workers and policy makers as to what extent the technology were adopted by the beneficiaries besides reflecting on the impact of the project on farm and home of TN-IAMP beneficiaries.

Materials and methods

Tamil Nadu state was purposively selected for the study as the researcher belongs to the same state. Madurai District of Tamil Nadu was purposively selected for this study because Tamil Nadu Irrigated Agriculture Modernization Project was conducted under Tamil Nadu Agricultural University. Sirumalaiyar and sathaiyar sub-basins were covered by the Madurai district which is having more ayacut area. Madurai district consists of 7 taluks. Among the seven taluks, Madurai north and Vadipattitaluk were selected. The sample size of 120 beneficiaries were selected by using purposive sampling method. The data collection was done with the use of a well-structured and pre-tested interview schedule. The reliability of the data could be more in the interview method. The collected data were analyzed by descriptive statistics and Karl Pearson's coefficient of correlation using SPSS software.

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Comment [p6]: 1.How was sample size determined? Any formular used to determine sample size?
2.How were these participants identified (recruited) in the study?

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Results and Discussion

Practice- wise level of adoption

The practice wise adoption level of TN-IAMP beneficiaries on black gram cultivation was studied and the results were presented in table 1.

Table 1Distribution of respondents according to their practice wise level of adoption (n=120)

S.No	Practices	Adoption level	
		Number	Per cent
I	**Crop production technologies**		
1.	Land should be free from volunteer plants like dry root rot	62	51.60
2.	land should be with proper drainage facility	83	69.10
3.	Land should be red soil or alluvial soil	57	47.50
4.	Make the land to fine tilth condition	79	65.80
5.	Application of 12.5 t/ha of FYM/coir pith during land preparation	60	50.00
6.	Mid-July to mid-august and mid-January to mid-February is suitable season for black gram cultivation	65	54.10
7.	VBN 6 is the variety used for black gram cultivation	94	79.00
8.	Duration of VBN 6 is 65-70 days	120	100.00
9.	Carbendazim and thiram are mostly used chemicals for seed treatment	62	51.60
10.	Treat the seeds with carbendazim or thiram @ 2 g/kg of seeds 24 hrs before sowing	63	52.50
11.	Treat the seeds with *pseudomonas fluorescens* @ 10 g/kg or *tricodermaviride*	70	58.30

	@ 4 g/kg of seeds 24 hrs before sowing		
12.	Rhizobium is mostly used bio fertilizer for treating seeds	59	49.10
13.	Treat the seeds with rhizobium @ 600 g/ha of seeds required along with 500 ml of rice kanji	62	51.60
14.	Rhizobium and phosphobacteria are bio fertilizer used for basal application in black gram cultivation	72	60.00
15.	In case of seed treatment is not done, 10 packets of rhizobium (2 kg/ha) and 10 packets of phosphobacteria (2 kg/ha) along with 25 kg of FYM and 25 kg of sand applied before sowing	78	65.00
16.	20 kg/ha seed required for black gram cultivation	90	75.00
17.	Seed dibbling is method of sowing	58	48.30
18.	45X10 cm is spacing followed for black gram cultivation	61	50.80
19.	Application of 5 t/ha of FYM during last ploughing of land preparation	57	47.50
20.	25 kg/ha of nitrogen fertilizer applied as basal for black gram cultivation	52	43.30
21.	50 kg/ha of phosphorous fertilizer applied as basal for black gram cultivation	45	37.50

22.	25 kg/ha of potassium fertilizer applied as basal for black gram cultivation	60	50.00
23.	Pendimethalin and fluchloralin are mostly used pre-emergence herbicides in black gram cultivation	71	59.10
24.	Spraying of pendimethalin @ 2.5 l/ha or fluchoralin 30% EC @1.5 l/ha at 3rd or 5th day after sowing with hand sprayer	69	57.50
25.	Soil digging should be done at 30th day after sowing to prevent weeds	73	60.80
II	**Crop protection technologies**		
26.	Sowing should be done in proper season	80	66.60
27.	Crop rotation should be done	81	67.50
28.	Fixation of light traps to attract gram pod borer adult stage	95	80.00
29.	Collect all stages of pest and destroy it	53	44.10
30.	Removal of yellow mosaic virus affected plants from the field to control viral diseases	51	42.50
31.	Fix the pheromone trap @ 12 no/ha to control borer	57	47.50
32.	To control yellow mosaic virus, seed treatment of seeds with imidacloprid @ 5 ml/kg of seeds 24 hrs before sowing	75	62.50
33.	Seed treatment with *tricodermaviride*@ 4 g/kg or *pseudomonas fluroscenes*@ 10	60	50.00

	g/kg of seeds to control dry roor rot		
34.	Spraying of 0.1% carbendazim on plant parts to control dry root rot	61	50.80
35.	Spraying of carbendazim @ 2.5 kg/ha on plant parts to control powdery mildew disease in black gram	64	53.30
III.	**Harvest and storage**		
36.	Pods turns brown or black with hard seeds inside pods are harvesting indices for black gram	85	70.80
37.	Plants are uprooted by hand or cut with sickle at the bottom of the plants	80	66.60
38.	Beating with flexible bamboo stick or by machinery to separation of seeds from harvested plants	81	67.50
39.	Drying of seeds by open sun dry up to 8-9 per cent of moisture content in seeds	75	62.50
40.	Agro moisture meter is instrument used to check moisture content in seeds	54	45.00
41.	Discoloured and broken seeds should be eliminated before grading	68	56.60
42.	Grading is done by sieving the seeds with BSS 7X7 wire mesh sieve	67	55.80
43.	Store the seeds in gunny bags or cloth bags for short term storage (8-9 months)	65	54.10

	with seed moisture of 8-9 per cent		
44.	Store the seeds in polyline gunny bags for medium term storage (12-15 months) with seed moisture of 8-9 per cent	61	50.80
45.	Store the seeds in polythene bags for long term storage (more than 15 months) with seed moisture of 8 per cent	83	69.10

Adoption level on crop production technologies

It could be observed from the above table 1 according to crop production technologies reveals that (79.00 percent) of the beneficiaries had adopted recommended variety (VBN 6) and three-fourth of the beneficiaries (75.00 per cent) have adopted recommended seed rate.

Regarding land preparation (47.50 percent) of the beneficiaries were adopted recommended practices on black gram and correct sowing of season.

Maximum number of beneficiaries (40-65 percent) were adopted recommended rate on usage of chemicals / bio-fertilizers for seed treatment, sowing, spacing and cultural practices (weeding, soil digging and etc.)

Adoption level on crop protection technologies

It could be observed from above table 1 regarding crop protection (44 – 65 percent) of the beneficiaries were adopted the recommended practices like cultural control (sowing in proper season and crop rotation), physical control (fixation of traps for pest and collection of pest), biological control (using bio control agents) and chemical control (recommended chemicals).

Adoption level on harvest and storage

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It could be observed from above table 1 that majority (70.8%~~0percent~~) of the beneficiaries were adopted the recommended practices on harvest indices (pods turns brown to black colour), harvest methods (66.60 %~~percent~~) (Hand removal / sickle method) and processing (removal of seeds).

With regard to drying process adoption rate of beneficiaries (62.50 %~~per cent~~) were practiced. And (50 – 65%~~ percent~~) per cent) of the beneficiaries possess goof adoption rate on grading (elimination of broken and discolored seeds, using 7X7 wire mesh) and storage (50 – 70 percent)(with gunny bags for short, medium and long term).

Extent of adoption of beneficiaries

Overall extent of adoption of TN-IAMP blackgram growers

The extent of adoption is the degree to which a farmer accepts and adopts a new technology. Though various technologies were introduced and taught to the farmers, it is important that those technologies were fully accepted and adopted by the farmers in their field characterized by continuous adoption of those technologies.

Adoption of innovations by farming clients is the fruit aim of all the extension agencies. It is defined by Rogers and Shoemaker (1971) as a decision to make full use of an innovation.

The data collected to study the adoption behaviour of TN-IAMP beneficiaries of black gram cultivation practices were analysed and the findings are presented in table 2.

Table 2 Distribution of the respondents according to their overall adoption level of TN-IAMP beneficiaries

(n=120)

S.No	Category	Number	Percent
1.	Low	19	15.80
2.	Medium	98	81.70
3.	High	3	2.50
	Total	120	100.00

It could be observed from above table 2 that majority of the TN-IAMP beneficiaries (81.70 per cent) were had medium level of adoption followed by nearly less than one-sixth of the total beneficiaries (15.80 per cent) were possess low adoption and meagre per cent (2.50 per cent) of the beneficiaries were had high level of adoption rate in this study.

Conclusion

From the above findings, majority of TN-IAMP beneficiaries (81.70 percent) were categorized under medium level of adoption on recommended practices because beneficiaries are mostly in medium level of social participation, information seeking behaviour, decision making, economic and scientific orientation, innovativeness and training undergone. This medium level will possess moderate level of income gained and that will satisfy the living style, savings and other financial activities of the beneficiaries in the study. Providing more finance to meet marketing expenses, establishing more financial institutions to avail finance at right time. Providing financial support to crops other than supply of inputs. Conduct training and demonstrations frequently to update the beneficiaries of latest cultivation technologies and methods to make beneficiaries at good knowledge level. It will also reduce lack of interest among beneficiaries.

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