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Impact of Knowledge on TN-IAMP Black Gram Growers in Madurai District of Tamil Nadu

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ABSTRACT

The World Bank Supported TN IAMP (Irrigated Agriculture Modernisation Project) is a follow up of IAMWARM (Irrigated Agriculture Modernisation and Water-Bodies Restoration and Management Project). Normally Western Ghats are receiving limited average annual rain fall of about 925 mm, lower than the national average 1200 mm. The project will adopt climate-resilient approaches that promotes sustainable use of land and water resources. This study was undertaken in the Madurai district of Tamil Nadu state during 2019. Totally 8 villages were selected from the study area. The respondents of 120 TN-IAMP black gram beneficiaries were selected using purposive sampling method. Knowledge is pre-requisite for adoption of an innovation. Crop production technology aspects reveals that (100 percent) of the beneficiaries possessed knowledge. With regard of grading and storage process (57-77 percent) of the beneficiaries were possessed knowledge. It might be observed that majority (81.70 per cent) of the TN-IAMP beneficiaries had medium level of knowledge.

Keywords: knowledge, TN-IAMP, beneficiaries & recommended Practices.

INTRODUCTION

The World Bank Supported TN IAM (Irrigated Agriculture Modernisation) Project is a follow up of IAMWARM (Irrigated Agriculture Modernisation and Water-Bodies Restoration and Management) Project which has made significant development impacts in the state by modernising irrigation infrastructure, improving water use efficiency, enhancing yields and productivity of agriculture in a climate resilient production systems, diversification towards high value crops, strengthening the institutional reforms through Participatory Irrigation Management (PIM) and Water Users Association (WUA). Tamil Nadu is one of the water starved states in India endowed with only 3 percent of the water resources in India. The state located in the rain shadow region of the Western Ghats is receiving limited average annual rain fall of about 925 mm, lower than the national average 1200 mm.

The interventions of this component are aimed at increasing productivity of mostly key crops, promoting diversification of agriculture production systems, enhancing resilience and improving farmer access to markets in project sub-basins. The project will adopt climate-resilient approaches that promotes sustainable use of land and water resources.

The component consists of three sub-components,

1. Agricultural intensification and diversification
2. Improving alternative livelihood sources through livestock and inland aquaculture
3. Marketing, value-addition and post-harvest management.

MATERIALS AND METHODS

This study was undertaken in the Madurai district of Tamil Nadu state. Madurai District of Tamil Nadu was purposively selected for this study because, TN-IAMP was implemented under Tamil Nadu Agricultural University. In this district, areas were covered under sirumalaiyar and sathaiyar sub-basin since its cover a more ayacut area. Madurai district consists of 7 taluks and among this taluks Alanganallur and Vadipatti blocks were selected for this study. Among these blocks totally 8 villages were selected based on TN-IAMP beneficiaries identified. The respondents of 120 TN-IAMP black gram beneficiaries were selected using purposive sampling method as follows.

Table 1: Distribution of the respondents in the selected villages (n=120)

S.No	Village	No. of respondents selected
1.	Thevaseri	17
2.	Muduvarpatti	17
3.	Sukkampatti	8
4.	Kutladampatti	19
5.	Semminipatti	30
6.	Katchaikatti	6
7.	Chokalingapuram	9
8.	poochampatti	14
Total		**120**

FINDINGS AND DISCUSSION

Knowledge on TN-IAMP black gram beneficiaries

Knowledge is pre-requisite for adoption of an innovation, as this enables the farmers to understand completely the recommended technologies, innovation and its attributes. The innovation, diffusion and communication of relevant technologies will have little effect unless farmers gain the knowledge about the technologies communicated and feel a need to put them into practice. Hence, it is necessary to analyse the knowledge level of respondents.

Practice- wise level of knowledge

Table 2: Distribution of respondents according to their practice wise extent of knowledge on black gram cultivation (n=120)

S.No	Practices	Knowledge level	
		Number	Percent
I	**Crop production technologies**		
1.	Land should be free from volunteer plants like dry root rot	74	61.60
2.	Make the land to fine tilth condition	99	82.50
3.	Mid-July to mid-august and mid-January to mid-February is suitable season for black gram cultivation	84	70.00

4.	VBN 6 is variety used for black gram cultivation	120	100.00
5.	Duration of VBN 6 is 65-70 days	120	100.00
6.	20 kg/ha seed required for black gram cultivation	102	85.00
7.	45*10 cm is spacing followed for black gram cultivation	72	60.00
II	**Crop protection technologies**		
8.	Sowing should be done in proper season	93	77.50
9.	Crop rotation should be done	92	76.60
10.	Fixation of light traps to attract gram pod borer adult stage	95	79.10
11.	Removal of yellow mosaic virus affected plants from the field to control viral diseases	66	55.00
12.	Seed treatment with *tricoderma viride* @ 4g/kg or *pseudomonas fluroscenes* @ 10g/kg of seeds to control dry root rot	72	60.00
13.	Fix the pheromone trap @ 12no/ha to control borer	60	50.00
14.	Spraying of carbendazim @ 2.5 kg/ha on plant parts to control powdery mildew disease in black gram	75	62.50
III.	**Harvest and storage**		
15.	Pods turns brown or black with hard seeds inside pods are harvesting indices for black gram	96	80.00
16.	Plants are uprooted by hand or cut with sickle at the bottom of the plants	93	77.50
17.	Beating with flexible bamboo stick or by machinery to separation of seeds from harvested plants	93	77.50
18.	Drying of seeds by open sun dry up to 8-9 % of moisture content in seeds	84	70.00
19.	Discoloured and broken seeds should be eliminated before grading	78	65.00
20.	Store the seeds in gunny bags or cloth bags for short term storage (8-9 months) with seed moisture of 8-9%	69	57.50

(Multiple response obtained)

Knowledge on crop production technologies

It could be observed from above Table.2. According to crop production technology aspects reveals that (100 percent) of the beneficiaries possessed knowledge in using VBN 6 variety for cultivation and duration of crop be 65-70 days. And maximum number of beneficiaries (85.00 percent) had knowledge on using recommended seed rate of cultivation.

Averagely (70-85 percent) of beneficiaries possess knowledge on land preparation, maintaining recommended season, recommended spacing on crop production aspects.

Knowledge on crop protection technologies

It could be observed from above Table 2. Regarding crop protection measures beneficiaries are good in knowledge level, whereas majority (70-80 percent) of the beneficiaries were possess knowledge on (cultural control) fixation of light traps, crop rotation and sowing carry out in proper season.

With regard to equal distribution (60-75 percent) of beneficiaries possessed knowledge on biological and chemical control of pest & diseases.

Knowledge on harvest and storage

It could be observed from the Table 2. Majority of the beneficiaries (70-80 percent) were possess knowledge on harvest indices (colour turns brown to black), harvesting methods (hand removal / by sickle) and processing (separation of seeds and drying).

With regard of grading and storage process (57-77 percent) of the beneficiaries

were possess knowledge on proper grading of seeds (elimination of broken and discoloured seeds) and storage (with gunny bags).

Overall knowledge level of TN-IAMP beneficiaries

To access the overall knowledge level of the TN-IAMP beneficiaries on black gram cultivation, the necessary data were collected, analysed and the findings are furnished in the below Table 3. The beneficiaries were categorized as low, medium and high knowledge level categories.

Table: 3 Distribution of the respondents according to their overall knowledge of TN-IAMP beneficiaries (n=120)

S.No	Category	Number	Percent
1.	Low	20	16.60
2.	Medium	98	81.70
3.	High	2	1.70
	Total	120	100.00

It might be seen from above table that majority (81.70 percent) of the TN-IAMP beneficiaries were had medium level of knowledge and followed by nearly meagre percent of beneficiaries had low (16.60 percent) and high (1.70 percent) of knowledge.

CONCLUSION

From the above findings, majority of TN-IAMP beneficiaries (98.30 percent) were categorised under low to medium level of knowledge on recommended practices, because of most of beneficiaries were functionally literate to middle school level, medium level of social participation, information seeking behaviour and innovativeness. In future, beneficiaries might to follow TN-IAMP for another five years or more which leads to good result in knowledge and increasing the rate of adoption rate on future on this technologies.

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