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Research Article

Study of Adoption 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. Technologies reveals that (100.00%) of the beneficiaries had adopted recommended variety (VBN 6). Regarding land preparation (47-70%) of the beneficiaries were adopted recommended practices on black gram and correct sowing of season. Majority (65-70%) of the beneficiaries were adopted the recommended practices on harvest indices.

Keywords: *Adoption, 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.

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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 and presented in table 1.

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

Adoption of TN-IAMP black gram beneficiaries

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.

Practice- wise level of adoption

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

S.No	Practices	Adoption level	
		Number	Percent
I	**Crop production technologies**		
1.	Land should be free from volunteer plants like dry root rot	62	51.60
2.	Make the land to fine tilth condition	79	65.80
3.	Mid-July to mid-august and mid-January to mid-February is suitable season for black gram cultivation	65	54.10
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	61	50.80
II	**Crop protection technologies**		
8.	Sowing should be done in proper season	80	66.60
9.	Crop rotation should be done	81	67.50
10.	Fixation of light traps to attract gram pod borer adult stage	70	58.30
11.	Removal of yellow mosaic virus affected plants from the field to control viral diseases	51	42.50
12.	Seed treatment with *tricoderma viride* @ 4g/kg or *pseudomonas fluroscenes* @ 10g/kg of seeds to control dry root rot	60	50.00
13.	Fix the pheromone trap @ 12no/ha to control borer	57	47.50
14.	Spraying of carbendazim @ 2.5 kg/ha on plant parts to control powdery mildew disease in black gram	61	50.80
III.	**Harvest and storage**		
15.	Pods turns brown or black with hard seeds inside pods are harvesting indices for black gram	85	70.80
16.	Plants are uprooted by hand or cut with sickle at the bottom of the plants	80	66.60
17.	Beating with flexible bamboo stick or by machinery to separation of seeds from harvested plants	81	67.50
18.	Drying of seeds by open sun dry up to 8-9 % of moisture content in seeds	75	62.50
19.	Discoloured and broken seeds should be eliminated before grading	68	56.60
20.	Store the seeds in gunny bags or cloth bags for short term storage (8-9 months) with seed moisture of 8-9%	65	54.10

(Multiple response obtained)

Adoption level on crop production technologies

It could be observed from the above Table 2, according to crop production technologies reveals that (100.00 percent) of the beneficiaries had adopted recommended variety (VBN 6) and three-fourth of the beneficiaries (75.00 percent) have adopted recommended seed rate. Regarding land preparation (47-70 percent) of the beneficiaries were adopted recommended practices on black gram and correct sowing of season. Maximum number of beneficiaries (47-65 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 2 , regarding crop protection (50-81 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

It could be observed from above Table 2, Majority (65-70 percent) of the beneficiaries were adopted the recommended practices on harvest indices (pods turns brown to black colour), harvest methods (hand removal / sickle method) and processing (removal of seeds). With regard to drying process adoption rate of beneficiaries (62.50 percent) were practiced. And (50-70 percent) of the beneficiaries possess storage (with gunny bags for short term).

CONCLUSION

From the above findings, majority of TN-IAMP beneficiaries (97.50 percent) were categorised under low to medium level of adoption 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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