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Strategy to Enhance the Adaptability of Castor Growers Towards Climate Variability in Castor

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KEYWORDS:

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ABSTRACT

Castor is cultivated extensively in Mahaboobnagar district of Andhra Pradesh state because of the commercial importance of its oil. The increase in area and production of castor crop has suddenly come to a hault due to adverse effect of climate variability. Area under castor in Mahabubnagar district is going down due to drought, fear of botrytis and upcoming of competitive crops like Bt Cotton and Maize. Keeping these things in mind a research was carried out to develop a strategy to enhance the adaptability of castor growers towards climate variability. The strategy includes the interventions to be taken up by the research system, extension system, at government level, at community level and at individual level.

INTRODUCTION

Castor is an important crop in the Mahaboobnagar district of Andhra Pradesh state. The total area under castor cultivation in Mahaboobnagar is 90.25 mt and the productivity is 733 kg/ha. (India stat.com 2010-2011)

Area under castor in Mahaboobnagar district is going down due to drought, fear of botrytis and competitive crops like Bt Cotton and Maize. The humid and cloudy weather during the months of September-November causes the fungal disease botrytis on kharif castor at flowering and capsule formation stage. The major limitation of crop is with botrytis grey rot which is threatening crop's continuance, high temperature above 41°C at flowering time even for a short period result in blasting of flowers and poor seed set. Thus current focus is oriented towards solving the problems of botrytis and drought. In recent years castor is being faced with series of climate related adversaries in the form of drought, pest and disease outbreak etc.

IV. MATERIALS AND METHOD

An Ex-post facto research design was adopted in the present investigation. Mahaboobnagar district of Telangana region of Andhra Pradesh state was purposively selected for the study. Four manadals and three villages from each mandal making a total of 12 villages were selected at random. The selected villages were Shettipally, Akuthotapally and Jangireddypalli from Amanagal manadal; Nagaram, Dokur and Marrikal from Deverakadra manadal; Gangaram, Boyapally and Mahadenpet from Bejenepally mandal; whereas Chitlankunta, Uppununthala and Padara were selected from Achampet manadal. From each selected village, 10 farmers were selected by random sampling method, making a total sample size of 120. In view of unearth the awareness and adaptability of castor farmers a strategy was developed to enhance their adaptability towards climate variability by collecting data from the respondents. Hence the present investigation was focused on designing a strategy to enhance the adaptation of farmers towards climate variability in castor crop.

V. RESULTS AND DISCUSSIONS

A strategy was developed based on the responses of castor growers for better adaptability towards climate variability in castor. The strategy includes the interventions to be taken up by the research system, extension system, at government level, at community level and at individual level.

1. Research system interventions

- Developing and standardizing the agronomic practices against climate variability in castor.
- Precision has to be maintained in documenting the area based and situation wise weather related information.
- Developing the castor varieties suitable for escaping terminal drought.
- Applicability of micro irrigation system in castor has to be tested
- Evolving strategic and integrated control measures of botrytis disease in kharif castor.
- Varieties shall be developed in castor which are resistant to botrytis disease.
- Contingent plans should be worked out in case of weather abnormalities or crop failure due to extreme climate variability.

2. Extension system interventions

- Disseminating available technical information on climate adaptation options.
- More awareness has to be created among castor farmers about available botrytis tolerant varieties.
- More training programmes may be organized for farmers to enlighten on affects and coping mechanisms to climate variability.
- Farmers may be sensitized to form into various groups and follow the group action approach to practice the pest and disease control measures in castor.
- The agro ecosystem at farm level has to be strengthened by supplying more quantities of bio fertilizers, bio pesticides, organic inputs, green leaf manuring and encouraging eco friendly technologies.
- Steps may be initiated to generate interest among farmers to get the climate related information from mass channels like T.V, radio and newspaper thereby it enhances their climate change awareness at macro level.
- More group discussions and small group interactions may be conducted among farmers for easy and quick dissemination of information.
- The designed contingency plans may be translated in to meaningful actions to be followed by the farmers in true spirit to escape the affects of climate variability.

3. Interventions at government level

- Government should arrange more adult literacy programmes at village level to improve the education among the farmers.
- Steps may be initiated to rejuvenate various organizations like panchayat, youth clubs, water user associations, community libraries, market committees etc., in rural areas, so that the farmers get the interest to work as member/ office bearer in these organizations, thereby they will be enlightened on matters pertaining to agriculture.
- Net farm income of farmers is very low; hence the govern-

ment should gear up the efforts to make the farming as profitable enterprise. This may be possible by minimising the cost of cultivation reducing the practices of critical inputs, seeds, fertilizers) and increasing the minimum support price.

- Due to subdivision and fragmentation, the small and marginal land holdings are increasing rapidly in rural areas, which are acting as a hurdle for adoption of technologies. Under these circumstances, the government should promote the spirit of collective and cooperative farming among the farmers in rural areas.
- The equipment and machinery possessed by the farmers is very poor to attend various plant protection and other farming operations from seed to seed. The presence of this equipment is essential keeping in view of scarce and costly human labour. Hence the government should provide this equipment through cooperatives for community usage.
- Irrigation is an essential component of crop cultivation. Most of the farmers in Mahaboobnagar district are growing the crops under bore wells and lift irrigation. This requires continuous and uninterrupted power supply. Hence, the government should ensure a minimum of seven hours of uninterrupted, continuous power supply to farming.
- Soil moisture is the scarce farm resource which has to be conserved carefully in the dry land areas like Mahaboobnagar. Hence, the government through Department of Agriculture and Irrigation Department should construct rain water conservation structures in the farms of farmers.
- An institutional arrangement may be formulated to sensitize and mobilise the farmers to insure the castor against the crop loss due to climate variability.

4. Interventions at community level

- Farmers should inculcate the spirit of participation in peer group discussions. The decisions taken in these groups reflect the thinking of all the members. These are the breeding places of new ideas with informal discussions and decisions on climate related issues.
- Farmers should follow the group action approach especially in practicing the biological control measures to arrest the pest and disease complex in castor.
- Botrytis disease can be controlled effectively if the farmers practice various preventive measures on community mode like seed treatment, spraying of chemicals etc.
- All the farmers should be habituated to insure the crop against climate variability in castor to face any eventuality.
- The ITKs which are the great wisdom of local area should be practiced uniformly by all the farmers to derive maximum benefits.

5. Interventions at individual level

- Each and every farmer should take initiative to experiment new technologies in their farm to reap maximum profits from those technologies.
- Majority of the respondents possessed large live stock. Each and every farmer improves the fertility status of their soil by adding the manure generated from this livestock.
- Every farmer should inculcate the habit of learning lessons on climate variability from their rich experience and design farm based situation wise strategies to overcome the affects of climate variability.
- Every farmer should be empowered himself by getting access to mass media channels like T.V, radio and news papers by participating in training programmes, group discussions to acquire the characteristics like risk taking ability, innovativeness, self confidence to cope up the aberrations in climate variability.
- The farmer should imbibe the spirit of group dynamics and team spirit to follow the group action approach to take up measures to control the epidemic disease like botrytis in castor which is affecting the crop continuously year after the year.

VI CONCLUSION

Strategy is the contributing of various plans, sub units focused on to minimize the effects of climate variability on castor crop. The research, extension, government level and individual level strategies may come to the rescue of castor farmers to face the climate variability.

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