

## International Journal of Agriculture Extension and Social Development

Volume 7; Issue 5; May 2024; Page No. 193-197

Received: 06-03-2024  
Accepted: 16-04-2024

Indexed Journal  
Peer Reviewed Journal

### Constraints and suggestions of small, marginal and large farmers towards crop diversification in Gadwal district of Telangana state

<sup>1</sup>N Shiva Kumar Naidu, <sup>2</sup>P Prashanth, <sup>3</sup>V Ravinder Naik and <sup>4</sup>I Shakuntala Devi

<sup>1</sup>P.G Scholar, Department of Agricultural Extension Education, College of Agriculture, Rajendranagar, Hyderabad, Telangana, India

<sup>2</sup>Assistant Professor, Department of Agricultural Extension Education, College of Agriculture, Rajendranagar, Hyderabad, Telangana, India

<sup>3</sup>Professor, Department of Agricultural Extension Education, College of Agriculture, Rajendranagar, Hyderabad, Telangana, India

<sup>4</sup>Assistant Professor, Department of Agricultural Economics, College of Agriculture, Rajendranagar, Hyderabad, Telangana, India

DOI: <https://doi.org/10.33545/26180723.2024.v7.i5c.619>

Corresponding Author: N Shiva Kumar Naidu

#### Abstract

Agriculture continues to be the most predominant sector of the state economy, as 70 percent of the population is engaged in Agriculture and allied activities for their livelihood. The State has an area of 1.2 Lakh sq.km with a gross cropped area of around 94.12 Lakh Ha. Constraints always play a significant role and it hinders the farmers from practicing crop diversification. The present study was conducted in Jogulamba Gadwal district of Telangana, which aimed to collect the constraints encountered by the farmers practicing crop diversification and suitable strategies to overcome from it. Market price fluctuation is the major constraint encountered by the farmers and they all suggested that providing Minimum Support Price to agricultural commodities will serve as a viable strategy to improve crop diversification.

**Objectives:** To find out constraints and suggestions to facilitate change behavior management behaviour of farmers towards crop diversification.

**Keywords:** Crop diversification, livelihood, constraints & suggestions

#### Introduction

Jogulamba district covers an area of 2,928 square kilometers and has a population of 6,64,971 as per 2011 Census data. In Telangana state's agriculture and allied sectors contributes 18.7 Percent of total GDP at current price in 2021-22. However, it's important to keep in mind that agriculture's contribution to the GDP has been declining over time as other economic sectors have grown drastically (DES-Telangana, 2023).

Crop diversification is a shift from traditionally grown less remunerative crops to more remunerative crops. Substantial increase in farmer's income and transformation of agriculture requires a paradigm shift in entire approach towards agriculture sector (Chand, 2017) [3]. Crop diversification provides better conditions for food security and enables farmers to grow surplus products for sale at market and thus help to obtain increased income to meet other needs related to household well-being (Rubina *et al.* 2018) [8]. Factors such as increase in productivity, lower cost of production with efficient use of resources, increase in cropping intensity, diversification towards high-value crops, and diversification towards other allied enterprises like livestock, fishery, sericulture, etc. contribute towards higher

agricultural growth from within (Amit *et al.* 2017) [1]. Identifying the constraints will help to frame suitable strategies to overcome the problems. Hence, a study was conducted in Jogulamba Gadwal district of Telangana with the purpose of identifying the constraints faced by the farmers in practicing crop diversification and provide suitable suggestions to overcome those constraints.

#### Review of Literature

Herath (2010) [6] in his study tries to identify a potential variable that explains the behavioral change in farmers' agricultural technology adoption decisions vigorously.

Basavaraja *et al.* (2011) [2] in their study of crop diversification in Karnataka, the results have revealed that major factors responsible for the changes in crop diversification are per capita income, the proportion of area under HYV of cereals, the proportion of gross irrigated area to gross cropped area, the average size of land holding, market density, and fertilizer consumption.

Mango *et al.* (2018) [7] in their study has examined that households with higher crop diversification intensities are more likely to have a diverse diet and they are also less likely to adopt desperate food insecurity coping strategies

based on FCS (Food consumption score), the distribution shows that the majority of the household (53.1%) are food secure, 25.1% have borderline food consumption, and only 21.8% have poor food consumption. In terms of HFIAS (Household food insecurity access), results show that 22.9% of the households are food secure, 70.5% are mild to moderate food insecure, and only 6.6% are severely food insecure.

Feliciano (2019) [5] from the study concludes that the impact of crop diversification on poverty mainly focuses on economic indicators, and the contribution of crop diversification to sustainable development goals (SDG1).

Sowmya (2019) [9] in their study identified that majority (45.12%) of farmers had shown a moderate extent of behavioral change towards organic farming followed by a great extent and results revealed that majority (41.11%) of the respondents shown moderate extent of behavioral change, 33.89 percent shown greater extent and 25.00 percent had shown lower extent of behavioral change towards organic farming. The scale developed was found to be reliable and valid, hence it can be used by the researchers to measure the behavioral change of farmers.

**Methodology:** The study was carried out in the year 2023 in Telangana state. *Ex-post facto* research design was adopted for the study. One district was selected purposively based highest paddy area grown. Accordingly, Jogulamba gadwal from Southern Telangana zone is selected. Out of 12 mandals in Gadwal district, 2 mandals namely Gadwal and Dharoor were randomly selected with maximum area under paddy cultivation in rabi. One village was randomly selected from each mandal from Gadwal district. Gurrangadda and Chintharevula villages from Gadwal and Dharoor mandals have maximum area under paddy cultivation in rabi. Eighty farmers selected randomly from each of the selected villages were interviewed. From each village 40 small and marginal farmers and 40 large farmers selected. Thus, a total of 160 farmers were selected for the study from 2 villages. Data was collected from the respondents using pre-tested interview schedule by personal interview method by the researcher. The collected data were coded and tabulated for statistical analysis by using statistical tools such as frequency and percentage.

**Findings and Discussions**

**Table 1:** Constraints and suggestions of stated by small and marginal farmers

S. No	Constraints	Frequency and Percentage	Rank	Suggestions	Frequency and percentage	Rank
<b>I. Market and economic related constraints</b>						
1.	Improper marketing channels at village level	72 (90.00)	II	Establish farmers markets or cooperatives at the village level. Utilise digital platforms for online marketing and connecting with buyers directly.	72 (90.00)	II
2.	Insufficient finance to start new enterprises	56 (70.00)	V	Access microfinance institutions or government-sponsored schemes for small-scale entrepreneurs.	56 (70.00)	V
3.	Market price fluctuation	75 (93.75)	I	Enter into contract farming agreements to secure stable prices. Diversify crops strategically to mitigate the impact of market fluctuations.	75 (93.75)	I
4.	Exploitation by the middle man	60 (75.00)	VI	Establish direct links with buyers or markets through cooperatives.	60 (75.00)	VI
5.	Low economic affordability	65 (81.25)	III	Explore cost-effective farming techniques and technologies. Advocate for financial support programs and subsidies for small-scale farmers	65 (81.25)	III
6.	Untimely availability of good quality inputs	43 (53.75)	IV	Collaborate with agricultural extension services to improve the supply chain for inputs	43 (53.75)	IV
<b>II. Socio – personal constraints</b>						
1.	Improper motivation for increasing participation	58 (72.50)	IV	Conduct awareness campaigns highlighting the benefits and success stories of crop diversification	58 (72.50)	IV
2.	Culture aspects (eating, rituals and life style)	52 (65.00)	VI	Promote crops that align with local cultural practices and preferences. Integrate traditional farming practices with modern techniques for sustainability	52 (65.00)	VI
3.	Status of soil	60 (75.00)	III	Implement soil testing and provide farmers with information on soil health. Encourage the use of organic and sustainable farming practices	60 (75.00)	III
4.	Unaware of benefits of crop diversification	72 (87.50)	I	Implement educational campaigns through community events, workshops, and farmer field schools. Engage with local influencers and leaders to promote the advantages of crop diversification	72 (87.50)	I
5.	Human and animal conflict	49 (61.25)	V	Implement protective measures such as fencing and deterrents. Collaborate with local authorities to address conflict resolution and compensation mechanisms	49 (61.25)	V
6.	Low self- confidence	64 (80.00)	II	Provide mentorship programs and counselling to boost farmer’s self-esteem. Encouraging success stories and peer-to-peer learning within the community	64 (80.00)	II
<b>III. Extension constraints</b>						
1.	Absence group membership (FPOs)	77 (96.25)	I	Advocate for the formation of Farmer Producer Organizations (FPOs) to amplify collective bargaining power. Collaborate with NGOs and government agencies to support the establishment of FPOs.	77 (96.25)	I
2.	Absence of contact with authorized institutions	43 (53.75)	VII	Facilitate outreach programs from government agencies to connect with farmers. Encourage local representatives to act as intermediaries between farmers and authorities	43 (53.75)	VII
3.	Use of single extension	47	VI	Implement a mix of methods, including on-farm demonstrations,	47	VI

	teaching method	(58.75)		workshops, and digital tools. Customize extension services based on the specific needs and preferences of farmers	(58.75)	
4.	Low media exposure towards crop diversification	58 (72.50)	V	Collaborate with local media outlets to showcase success stories and benefits. Utilize social media platforms for promoting crop diversification practices	58 (72.50)	V
5.	Low expose of success stories to fellow farmers	65 (81.25)	IV	Organising a meeting every quarterly of month in Raithu Vedika with farmer who had Succeeded in crop diversification by sharing his experience Organize field visits and demonstrations to showcase successful diversification models.	65 (81.25)	IV
6.	Ineffective skill oriented extension activities	72 (87.50)	III	Develop skill-oriented training programs focused on diversified cropping systems. Encourage partnerships with agricultural institutions for specialized skill development	72 (87.50)	III
7.	Limited awareness on Government schemes and policies	75 (93.75)	II	Conduct awareness campaigns about available government schemes and policies. Collaborate with local government representatives to disseminate information to farmers	75 (93.75)	II

The problems faced by small, marginal farmers were presented in Table 1, The major market and economic related problems for behaviour change were expressed by the small, marginal farmers in the following rank order, market price fluctuation (93.75%), improper marketing channels at village level (90.00%), Low economic affordability (81.25%), insufficient finance to start new enterprises (75.00%), exploitation by the middle man (70.00%). The socio personal problems expressed by farmers are unaware of benefits of crop diversification (87.50%), low self- confidence (80.00%), status of soil (75.00), Improper motivation for increasing participation (72.50), human and animal conflict (61.25), culture aspects (eating, rituals and life style) (65.00). The extension problems faced by small, marginal farmers are absence group membership (FPOs) (FPOs) (96.25), limited awareness on government schemes and policies (93.75), ineffective skill oriented extension activities (87.50), low expose of success stories to fellow farmers (81.25), low media exposure towards crop diversification (72.50), use of single extension teaching method (58.75), absence of contact with authorized institutions (53.75).

The suggestions were given by small, marginal farmers for behavioural change in the following rank order. Enter into contract farming agreements to secure stable prices. diversify crops strategically to mitigate the impact of market fluctuations (93.75%), establish farmers markets or cooperatives at the village level. utilise digital platforms for online marketing and connecting with buyers directly

(90.00%), diversify crops strategically to mitigate the impact of market fluctuations (81.25%), explore cost-effective farming techniques and technologies. Advocate for financial support programs and subsidies for small-scale farmers (75.00%), collaborate with agricultural extension services to improve the supply chain for inputs, access microfinance institutions or government-sponsored schemes for small-scale entrepreneurs (70.00%), establish direct links with buyers or markets through cooperatives, implement educational campaigns through community events, workshops, and farmer field schools. engage with local influencers and leaders to promote the advantages of crop diversification (87.50%), provide mentorship programs and counselling to boost farmers self-esteem, encouraging success stories and peer-to-peer learning within the community (80.00%), implement soil testing and provide farmers with information on soil health, encourage the use of organic and sustainable farming practices (75.00), conduct awareness campaigns highlighting the benefits and success stories of crop diversification (72.50), human and animal conflict (61.25), culture aspects (eating, rituals and life style) (65.00), lack of group membership (FPOs) (96.25),

Lack of awareness on Government schemes and policies (93.75), lack of skill oriented extension activities (87.50), low expose of success stories to fellow farmers (81.25), low media exposure towards crop diversification (72.50), use of single extension teaching method (58.75), lack of contact with authorized institutions (53.75).

**Table 2:** Constraints and suggestions stated by large farmers

S. No.	Constraints	Frequency and Percentage	Rank	Suggestions	Frequency and percentage	Rank
<b>I. Market and economic related constraints</b>						
1.	Improper market facilities for alternate crops	60 (75.00)	IV	Advocate for the development of markets and trading platforms for diverse crops.	60 (75.00)	IV
2.	less mills processing mills for alternate crops like paddy	58 (72.50)	VI	Encourage private investors and entrepreneurs to invest in processing mills.	58 (72.50)	VI
3.	High cost for processing and value addition	64 (80.00)	III	Promote cost-sharing models, subsidies, or grants for processing units.	64 (80.00)	III
4.	No subsidiary	52 (65.00)	VII	Advocate for government subsidies or financial incentives for farmers engaging in crop diversification.	52 (65.00)	VII
5.	Lesser government marketing channels for alternate crops	72 (87.50)	I	Lobby for the establishment of government-led marketing channels for diverse crops. Collaborate with the government to create marketing avenues	72 (87.50)	I
6.	Infrastructural facilities (road, market, transport and processing facilities)	68 (85.00)	II	Collaborate with authorities to improve infrastructure in agricultural regions.	68 (85.00)	II

7.	Fluctuations in MSP	60 (75.00)	V	Lobby for stable and favorable Minimum Support Prices (MSP) for diverse crops. Diversify crops based on market demand and trends.	60 (75.00)	V
<b>II. Extension constraints</b>						
1.	Inadequate knowledge in handling alternate crops	68 (85.00)	III	Implement educational programs and workshops to enhance farmers' understanding of diverse crops.	68 (85.00)	III
2.	Less skill oriented programs by government towards crop diversification	75 (93.75)	I	Advocate for government initiatives focused on skill development for handling different crops.	75 (93.75)	I
3.	Insufficient extension services for new crops	72 (87.50)	II	Strengthen extension services and provide additional resources for educating farmers on new crops.	72 (87.50)	II
<b>III. Socio – personal constraints</b>						
1.	High labour wages	58 (72.50)	IV	Introduce mechanization and modern farming techniques to reduce dependency on labor.	58 (72.50)	IV
2.	Low farmers success rate in crop diversification	70 (87.50)	I	Establish mentorship programs to share successful progress Conduct awareness campaigns on successful diversification	70 (87.50)	I
3.	Less support from different authorized institutions	68 (85.00)	II	Engage with agricultural institutions and NGOs to provide support and guidance for crop diversification	68 (85.00)	II
4.	Insufficient schemes in promoting crop diversification	64 (80.00)	III	Advocate for the development and implementation of government schemes promoting crop diversification.	64 (80.00)	III

The problems faced by large farmers were presented in Table 2, gives that the major market and economic related problems for behaviour change were expressed by the large farmers in the following rank order, lesser government marketing channels for alternate crops (87.50), infrastructural facilities (road, market, transport and processing facilities) (85.00), high cost for processing and value addition (80.00), lack of market facilities for alternate crops (75.00), fluctuations in MSP (75.00), less mills processing mills for alternate crops like paddy (72.50), no subsidiary (65.00). The extension problems faced by large farmers are lack of skill oriented programs by government towards crop diversification (93.75), insufficient extension services for new crops (87.50), lack of knowledge in handling alternate crops (85.00). The socio – personal problems faced by large farmers are low farmers success rate in crop diversification (87.50), inadequate knowledge in handling alternate crops (85.00), insufficient schemes in promoting crop diversification (80.00), high labour wages (72.50).

The Suggestions were given by large farmers for behavioural change in the following rank order lobby for the establishment of government-led marketing channels for diverse crops, collaborate with the government to create marketing avenues (87.50), collaborate with authorities to improve infrastructure in agricultural regions (85.00), promote cost-sharing models, subsidies, or grants for processing units (80.00), lobby for the establishment of government-led marketing channels for diverse crops, collaborate with the government to create marketing avenues (75.00), advocate for the development of markets and trading platforms for diverse crops, diversify crops based on market demand and trends (75.00), encourage private investors and entrepreneurs to invest in processing mills (72.50), advocate for government subsidies or financial incentives for farmers engaging in crop diversification (65.00), less skill oriented programs by government towards crop diversification (93.75), strengthen extension services and provide additional resources for educating farmers on new crops (87.50), implement educational programs and workshops to enhance farmers' understanding of diverse crops (85.00), low farmers success rate in crop diversification (87.50), lack of support from different authorized institutions (85.00), lack of schemes in

promoting crop diversification (80.00), high labour wages (72.50).

### Conclusions

This paper examined the constraints of crop diversification in Jogulamba Gadwal district of Telangana and also enumerates the suggestions to overcome the constraints using primary data collected. Constraints always play a significant role and it prevents farmers from practicing crop diversification. It was found that Market price fluctuation was their major constraint in practicing crop diversification and they suggested that ensuring minimum support price for all the agricultural commodities would be a suitable strategy for better crop diversification. Providing credit/subsidy facilities to the farmers and timely availability of inputs would encourage them to practice crop diversification. Hence, Government should take measure to create awareness among farmers to practice crop diversification.

### Reference

1. Basantaraya AK, Nancharaiiah G. Relationship between Crop Diversification and Farm Income in Odisha - An Empirical Analysis, *Agricultural Economics Research Review*. 2017;30:45-58.
2. Basavaraja H, Kunnal LB, Mahajanashetti SB, Bhat AR. Crop diversification in Karnataka: An economic analysis. *Agricultural Economics Research Review*. 2011;24(347-2016-16964):351-358.
3. Chand R. Presidential Address: Doubling farmers' income: Strategy and prospects. *Indian Journal of Agricultural Economics*. 2017;71(1):1-23.
4. DES-Telangana. Telangana statistical abstract (Atlas); c2023. <https://www.tsdp.telangana.gov.in/Atlas>.
5. Feliciano D. A review on the contribution of crop diversification to Sustainable Development Goal 1 No poverty in different world regions. *Sustainable development*. 2019;27(4):795-808.
6. Herath CS. Motivation as a potential variable to explain farmers' behavioral change in agricultural technology adoption decisions. *E+M Ekonomie a Management*; c2010.
7. Mango N, Makate C, Mapemba L, Sopo M. The role of crop diversification in improving household food security in central Malawi. *Agriculture & Food*

- Security. 2018;7(1):1-10.
8. Rubina K, Bhaduri D, Nayak AK. Crop diversification: an important way-out for doubling farmers' income. *Indian Farming*. 2018;68(01):31-32.
  9. Sowmya TM, Narasimha N. Behavioral change scale development towards organic farming transition by farmers. *Journal of Pharmacognosy and Phytochemistry*. 2019;8(6):488-492.