

ASSESSMENT OF LIVELIHOOD SECURITY OF FARMERS IN COASTAL AREA

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ABSTRACT

India is a developing nation where the vast majority of people rely on agriculture as their primary source of income. The means by which people maintain, thrive, and survive is known as their livelihood. A person's ability to support himself is a result of how and why they organize to use labor, technology, power, knowledge, and social relationships to change their environment and meet their needs. In the state of Gujarat, coastal salinity is and will remain the biggest threat to sustainable crop production. The main causes of improved livelihood security are issues with the salinity of the soil and water. A study was conducted in Porbandar, Junagadh and Gir Somnath district to assess the livelihood security of coastal area farmers and to ascertain the relationship between livelihood security and profile of the coastal area farmers. A sample of 120 respondents were selected from 12 different villages on the basis of 5 km from the coastal belt of three districts by applying multistage purposively random sampling technique. Majority (61.67 per cent) of the farmers had medium level of overall livelihood security index, followed by 20.00 per cent of them had low level of livelihood security index and 18.33 per cent of them were with high level of livelihood security index. There was positive and highly significant relationship between education, size of land holding, occupation, annual income, economic motivation, resource use management behavior and their livelihood security and also had positively and significant relationship between management orientation and credit orientation with their livelihood security.

Keywords: livelihood security, relationship, coastal area farmers

INTRODUCTION

Coastal areas are abundant in natural resources, such as water bodies, coral reefs, and mangroves, all of which offer a variety of benefits to the well-being of humans. This natural diversity is providing immense economic opportunities for growth of the regions, also supports a vast segment of the rural households to earn their livelihoods. The over emphasis on agriculture development focused on irrigated belts overlooked the developmental needs of vast tracts of rainfed areas as well as coastal regions that together constitute two third of India's cultivable land.

India is one of the developing countries, where 58.00 per cent of people depend on agriculture for their livelihoods. Indian economy is agriculture based economy. In simple agriculture is the backbone of India. Now-a-days, there has been a change in the attitude among farming community. Farming, traditionally has been viewed as a source of subsistence living and livelihood by growing food crops like rice, maize, wheat, millets and pulses etc. for meeting the food requirements of the family. Livelihood can be made up of on and off-farm activities that organize a variety of procurement strategies (Viswanathan *et al.*, 2016).

Livelihood is the means that the people use to support themselves, to survive and to prosper. Livelihood is an outcome of how and why people organize to transform the environment to meet their needs through technology, labour, power, knowledge, and social relations. Livelihoods are also shaped by the broader economic and political systems within which they operate. Put crudely, almost half of the world's population does not have the socio-economic and political means to realize their economic and social rights. One of the major causes of the poverty is the lack of viable livelihoods in the developing world. Livelihoods are the sum of ways in which people make a living. The idea of livelihood security embodies three fundamental attributes viz., the possession of human capabilities, access to other tangible and intangible assets and the existence of economic activities. The interaction among these attributes defines what livelihood option an individual pursues.

OBJECTIVES

- (1) To assess the livelihood security of coastal area farmers
- (2) To ascertain the relationship between livelihood security and profile of the coastal area farmers

METHODOLOGY

“Ex-post facto” research design was applied for this study. Kerlinger, F. (1969) stated that “Ex-post facto” design is worthy is apply when the independent variable has already acted upon. A multistage, purposive and random sampling technique was used for this study. Three districts of Saurashtra region were selected purposively for study namely Porbandar, Junagadh and Gir Somnath district because all three districts

having largest costal belt and suffering from high salinity ingression in their land and farmers having troubling of their livelihood. From each selected district, four villages were purposively selected on the basis of the village situated at 5 km range from the coastal belt. Because in the area of 5 km from coastal belt, prevailing high salinity in their soil. Thus, total twelve villages were surveyed during the study. From each selected village, 10 farmers were randomly selected making a total sample of 120 respondents.

RESULT AND DISCUSSION

LIVELIHOOD SECURITY OF COASTAL AREA FARMERS

Component of livelihood security

Table 1: Component of livelihood security

(n= 120)

Sr. No.	Category	Frequency	Percentage
1	Asset		
	Very low (Up to 9.60 score)	02	01.66
	Low (9.60 to 13.20 score)	23	19.17
	Medium (13.21 to 16.80 score)	65	54.17
	High (16.81 to 20.40 score)	21	17.50
	Very high (Above 20.40 score)	9	07.50
2	Living amenities		
	Very low (Up to 9.60 score)	38	31.67
	Low (9.61 to 13.20 score)	62	51.66
	Medium (13.21 to 16.80 score)	20	16.67
	High (16.81 to 20.40 score)	0	00.00
	Very high (Above 20.40 score)	0	00.00
3	Economic efficiency		
	Very low (Up to 6.50 score)	69	57.50
	Low (6.51 to 9.00 score)	42	35.00
	Medium (9.01 to 11.50 score)	09	07.50
	High (11.51 to 14.00 score)	0	00.00
	Very high (Above 14.00 score)	0	00.00
4	Ecological security		
	Very low (Up to 4.80 score)	0	00.00
	Low (4.81 to 6.60 score)	38	31.67
	Medium (6.61 to 8.40 score)	64	53.33
	High (8.41 to 10.20 score)	15	12.50
	Very high (Above 10.20 score)	03	02.50

Sr. No.	Category	Frequency	Percentage
5	Social equitability		
	Very low (Up to 8 score)	12	10.00
	Low (8.01 to 11 score)	67	55.83
	Medium (11.01 to 14 score)	39	32.50
	High (14.01 to 17 score)	02	01.67
	Very high (Above 17 score)	0	00.00
6	Coping strategies against stress		
	Very low (Up to 9.60 score)	67	55.83
	Low (9.61 to 13.20 score)	48	40.00
	Medium (13.21 to 16.80 score)	05	04.17
	High (16.81 to 20.40 score)	00	00.00
	Very high (Above 20.40 score)	00	00.00
7	Employment status		
	Very low (Up to 16.00 score)	15	12.50
	Low (16.01 to 22.00 score)	84	70.00
	Medium (22.01 to 28.00 score)	21	17.50
	High (28.01 to 34.00 score)	00	00.00
	Very high (Above 34.00 score)	00	00.00

Asset

An asset is any resource with economic value or anything of material value or usefulness that an individual, corporation or country owns or controls with the expectation that it will provide a future benefit. Assets are very important component in securing one's livelihood as it provides long term benefit. The data in regards with the level of asset were collected from the respondents, classified and are presented in Table 1. Nearly half 54.17 per cent of the coastal area farmers had medium level of asset, followed by 19.17 per cent and 17.50 per cent of them who had high and low level of asset, respectively. Where 7.50 per cent of coastal area farmers had very high level of asset and only 01.66 per cent had very low level of asset. The reason behind that majority of the coastal area farmers had medium level of asset, marginal and small size of land holding and medium level of annual income of the coastal area farmers might be the influential factors for their medium level of asset. These findings are more or less corroborated with the findings of Kowsalya (2017).

Living amenities

Living amenities are those basic amenities which are considered very vital for easy, comfortable and pleasant daily life. Such amenities include the facility of water for drinking purpose and irrigation purpose, road facility, availability of nutritional food, etc. Higher the level of living amenities, better can be considered the standard of living and livelihood security. With this consideration, the component

living amenities was studied, the data of which are presented in Table 1. Slightly more than half 51.66 per cent of the coastal area farmers had low level of living amenities, while 31.67 per cent and 16.67 per cent of them had very low and medium level of living amenities, respectively. None of the coastal area farmers was observed high and very high level of living amenities.

It can be therefore inferred that majority of the coastal area farmers had low level of living amenities. Through survey, it was understood that majority of the coastal farmers were living in rural area and scattered home on their farm where they weren't able to access even the most needed living amenities such as proper nutritional food, good drinking water and other facilities. Less developmental efforts of government and non-governmental agencies in improving the standard of living of coastal area farmers might be the reason for the above finding. These findings slightly support the findings of Kowsalya (2017).

Economic efficiency

Economic efficiency implies an economic state in which every resource is optimally allocated to serve each individual or entity in the best way while minimizing waste and inefficiency. Economic efficiency in this study has been taken in the context of savings of coastal area farmers from their earnings and availability of employment in nearby area. Thus higher economic efficiency implies better livelihood security. With this consideration, the data in regards with

economic efficiency were collected, classified and are presented in Table 1. Majority 57.50 per cent of the coastal area farmers had very low level of economic efficiency, whereas 35.00 per cent and only 07.50 per cent of them had low and medium level of economic efficiency, respectively. None of the respondents was found in the category of high and very high level of economic efficiency.

It can therefore be concluded that majority of the respondents had low to very low level of economic efficiency. On account of their small and marginal land holding and low level of annual income, they had not enough money spared to save in the banks/other institutions; the reflection of which could be seen in this result. The results of the study are more or less corroborated with the findings of Kowsalya (2017).

Ecological security

Ecological Security in this study has been conceptualized as the extent to which the coastal area farmers feel that their ecology comprising of land, water and somewhat fishing resources would help them to secure their livelihood. Keeping this in view, the data in respect of ecological security were collected, classified and are presented in Table 1. Slightly more than half 53.33 per cent of the coastal area farmers had medium level of ecological security, followed by 31.67 per cent and 12.50 per cent of them who felt low and high level of ecological security, respectively. Only 2.50 per cent of the respondents had very high level of ecological security, while none of them fell under very low level of ecological security.

Thus in nutshell it can be stated that majority of the respondents had medium level of ecological security. As opined by the respondents, low to medium rain fall leading to water shortage for agriculture and allied household purposes and also diminishing forest resources were the reasons for the above finding. The results of the study are in partial conformity with the findings of Kowsalya (2017).

Social equitability

Social equitability is a state of affairs in which all people within a specific society or isolated group have the same status and rights. In a society which is based on fairness and equitability, the people get good community support and social recognition which work as a positive force for livelihood security. With this view, the data in regards to social equitability were collected, classified and are presented in following table 1. Majority 55.83 per cent of the respondents had low level of social equitability, while 32.50 per cent and 10.00 per cent of them had medium and

very low level of social equitability, respectively. Only, 1.67 per cent of the respondents had high level of social equitability, whereas none of them had very high level of social equitability.

It can thus be inferred that majority of the respondents had low level of social equitability. Lack of community support, lack of sufficient recognition from the society and poor relations between the coastal area farmers and other sections of the society might be the reasons for such finding. These findings slightly support the findings of Kowsalya (2017).

Coping strategies against stress

Stress in this study denotes the situation characterized by crises during which it becomes too difficult for the coastal area farmers to survive and coping strategies are the ways and means adopted by the coastal area farmers to survive under such crises and securing their livelihood. The data in this respect were collected from the respondents, the results of which are presented in Table 1. Three-fifth 55.83 per cent of the coastal area farmers had very low level of coping strategies against stress, while 40.00 per cent and 04.17 per cent of them had low and medium level of coping strategies against stress, respectively. Under high and very high level of coping strategies against stress, none of the respondents was found.

Thus, it can be inferred that majority of the coastal area farmers had low to very low level of coping strategies against stress, or in other words it can be said that majority of them had not enough preparedness to cope up with the situation of stress. This might be because of lack or low level of their saving due to lower level of annual income, high salinity ingress in their soil, lack or low level of other alternative resources to meet their requirement or their inability to create income generating resources to thrive under stressful situation. These findings derive partial support from the findings reported by Kowsalya (2017).

Employment status

Employment status here denotes the prevailing situation pertaining to all aspects related to employment such as assured availability of employment, amount of wages given to the coastal area people for their work, availability of basic facilities at the work place, safety measures at work place, migration in search of employment, *etc.* As employment status is one of the important components of livelihood security, it was studied the results of which are presented in Table 1.

Low level of employment status was perceived by majority 70.00 per cent of the coastal area farmers, whereas 17.50 per cent and 12.50 per cent perceived medium and very low level of employment status, respectively. None of the respondents was found under the category of high and very high level of employment status.

It can be concluded that majority of the respondents had low level of employment status. The reasons might be the lack of assured employment, lack of subsidiary enterprises as an additional income source, lower level of education and has not proper skill to get guaranteed employment and all such other unfavorable factors causing low level of employment

status. These findings slightly support the findings of Kowsalya (2017).

Overall livelihood security index

Livelihood comprises the capabilities, assets and activities required by an individual as the means of living. In the present study livelihood security was operationalized as adequate access to food and nutrition, health facilities, clean environment, habitat facilities, educational opportunities, community participation and social integration and it was studied on the basis of seven components. The data regarding level of knowledge are given in Table 2.

Table 2: Distribution of respondents according to their overall livelihood security index (n=120)

Sr. No.	Category	Frequency	Percentage
1	Low level of overall livelihood security index (up to 42.05)	24	20.00
2	Medium level of overall livelihood security index (42.05 to 48.06)	74	61.67
3	High level of overall livelihood security index (above 48.06)	22	18.33
Mean = 45.05		S.D. = 3.00	

The data present in Table 2 revealed that majority 61.67 per cent of the coastal area farmers had medium level of overall livelihood security index, followed by 20.00 per cent and 18.33 per cent of them had low and high level of overall livelihood security index.

It can be concluded that great majority of the coastal level farmers had medium level of overall livelihood security index. As majority of the coastal area farmers fell under medium to low category for all seven components of overall livelihood security index, it is rightly reflected in overall livelihood security. The results of the study are in conformity with the findings of Binkadakatti (2013), Rai (2015), Kowsalya (2017) and Bhabhor *et. al.* (2019).

Relationship between profile of the coastal area farmers and their livelihood security

To ascertain the relationship between profile of the coastal area farmers and their livelihood security, the Karl Pearson co-efficient of correlation was worked out. Total twelve personal, socio-economic and psychological characteristics of the coastal area farmers were studied in respect to their correlation with livelihood security for which score of overall livelihood security index was used. The data in this regard are presented in Table 3 and discussed under following sub heads:

Table 3: Correlation between the profile of the coastal area farmers and their livelihood security (n = 120)

Sr. No.	Name of the independent variables	'r' value
X ₁	Age	-0.0381 ^{NS}
X ₂	Education	0.2752 ^{**}
X ₃	Family size	-0.1157 ^{NS}
X ₄	Size of land holding	0.3395 ^{**}
X ₅	Occupation	0.3252 ^{**}
X ₆	Annual income	0.2958 ^{**}
X ₇	Caste	-0.1415 ^{NS}
X ₈	Social participation	0.0432 ^{NS}
X ₉	Economic motivation	0.3099 ^{**}
X ₁₀	Management orientation	0.1933 [*]
X ₁₁	Credit orientation	0.2162 [*]
X ₁₂	Resource use management behavior	0.3409 ^{**}

* = Significant at 0.05 level **=Significant at 0.01 level

NS=Not significant

The characteristics of the respondent's viz., education, size of land holding, occupation, annual income, economic efficiency and resource use management behavior had positive and highly significant relationship with livelihood security of coastal area farmers. The characteristics of the respondents like management orientation and credit orientation were positively and significantly related with livelihood security of coastal area farmers. The characteristics of the respondents like social participation had positive and non-significant relationship with livelihood security of coastal area farmers. The characteristics of the respondents like age, family size and caste had negative and non-significant relationship with livelihood security of coastal area farmers. This result is in line with Lakshmi Narayani (2009), Devarajaiah (2010), Mamathalakshmi (2013) and Rai (2015), Vinaya et al., (2019), Chuadhari et al. (2023).

CONCLUSION

It can be concluded that majority of the respondents belonged to medium level of asset, nearly half respondents had low level of living amenities, more than half of respondents had very low level of economic efficiency, medium level of ecological security, low level of social equitability, very low level of coping strategies against stress and more than two-third of respondents had low level of employment status. Majority of the respondent had medium level of overall livelihood security, followed by low and high overall livelihood security. There was positive and highly significant relationship between education, size of land holding, occupation, annual income, economic motivation, resource use management behaviour and their livelihood security and also had positively and significant relationship between management orientation and credit orientation with their livelihood security. The characteristics of the respondents like age, family size, caste and social participation were non-significant relationship associated with the livelihood security.

IMPLICATIONS

- (1) The results of the study are useful in knowing the characteristics of the coastal area farmers and their relationship with livelihood security; and thereby help to serve as guideline for policy makers, planners and extension workers to plan and implement coastal area farmer's development efforts.
- (2) The government should encourage and monitor the salinity management programme for coastal area farmers and make sure whether these programmes have reached the intended beneficiaries or not.
- (3) Intensive efforts should be made by government to assure that all necessary living amenities like drinking water, nutritious food, fuel, health facilities etc. are available

in all the villages on the coastal belt and no one is left devoid of such facilities.

- (4) The government should focusing research and development in crops that can be grown in varied regions of coastal areas with varying levels of salinity ingress and land degradation.

CONFLICT OF INTEREST

All authors declare that they have no conflict of interest.

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