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ASSESSMENT OF LIVELIHOOD SECURITY OF FARMERS IN COASTAL AREA OF SOUTH GUJARAT

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ABSTRACT

Gujarat has the longest coastline about 1600 km. The shore line have been approached to the habitable area, local people of coastal villages are belonging to farming community. These communities are totally depended upon the farming and fishing business. Since no systematic effort has up till been made to study the livelihood security of the coastal area farmers, it was thought worthwhile to make an in-depth study on livelihood security of coastal area farmers which would throw light on the developmental aspects of the coastal area famers. Navsari and Valsad districts of South Gujarat were purposively selected for present investigation because both districts are having Coastal belt and suffering from high salinity ingress in their land and farmers having troubling of their livelihood. Total 120 respondents were selected by employing multi-stage purposively random sampling technique. The data were collected through personal interview schedule of the respondents. The collected data were analyzed by using scale developed by Mamathalakshmi (2013). The Results of the present study shown that majority of the coastal area farmers had medium level of overall livelihood security.

Keywords: *livelihood security, coastal area farmer, assessment, south gujarat*

INTRODUCTION

India has a variety of natural coastal ecosystems. The Indian coastline can be divided into the Gujarat region such as, the west coast, the east coast and the Islands. Coral reefs, mangroves, estuaries and deltas are delicate and fragile ecosystems rich in biodiversity. Coastal zones are home to 40 per cent of the world's population and support much of the world's food production and industrial, transportation and recreation needs, while also delivering vitally important ecosystem services. The shore line have been approached to habitable area, local people of coastal villages are belonging to farming community. These communities are totally depended upon the farming and fishing business. Gujarat state having more pernicious problems in salinity and alkalinity compared to other states. The fishing community is one of the most vulnerable groups, facing a number of challenges threatening their lives and livelihoods. India is an agrarian country. It is considered as world's largest agrarian economy. Fifty per cent of population depends directly or indirectly on agriculture. Agriculture, with its allied sectors, is the largest source of livelihoods in India (Gajera, 2021).

Livelihood is the means for people use to support themselves, to survive, and to prosper. It 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. In general, 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 (Gajera, 2021; Chuadhari et al., 2022; Mohanty et al., 2022).

OBJECTIVE

To assess the livelihood security of coastal area farmers of South Gujarat

METHODOLOGY

An *Ex-post-facto* research design was used in the present study. South Gujarat region consist of seven districts namely Surat, Bharuch, Narmada, Navsari, Valsad, Tapi and The Dangs. Out of these districts Navsari and Valsad district were purposively selected for present investigation because both districts are having Coastal belt and suffering from high salinity ingress in their land and farmers having troubling of their livelihood. From selected districts, five talukas adjoining to coastal area were selected for study. From each taluka two adjoining villages were selected on the basis of 5 km from the coastal belt purposively. Thus total 10 villages

were selected for the study. Twelve respondents from each village were selected randomly. Thus, a total 120 respondents were selected by employing multi-stage purposively random sampling technique. The data were collected through personal interview schedule. The collected data were analyzed by using scale developed by Mamathalakshmi (2013). The scale consists of eight components for measuring livelihood security as under.

(1) Assets

(2) Living amenities

(3) Economic efficiency

(4) Ecological security

(5) Social equitability

(6) Transformation over a period of time

(7) Coping strategies against stress

(8) Employment status

For each of these eight components, responses of the respondents were obtained on each of the items included in the scale in terms of their extent of agreement on a four point continuum ranging from strongly agree, moderately agree, slightly agree and not agree at all. The positive statements were scored, 4, 3, 2 and 1 for great extent, medium extent, low extent and nil at all responses, respectively and for negative statement the scoring was reverse. The respondents were arbitrarily grouped into five categories viz. very low, low, medium, high and very high.

Further, for measuring overall livelihood security of the farmers in an effective way, 50 judges/experts from SAUs of Gujarat were requested to assign relative score (weight) to each of these 8 components in such a way that total score assigned to all the components would be 100. Based on the responses of experts, relative weightage (per cent) for each component was worked out as shown in formula A. The value of each component for each respondent was then worked out using formula B.

(A) Relative weightage

It is a procedure for estimating the relative importance of correlated predictors in a regression equation.

$$\text{R. W.} = \frac{x_1+x_2+\ldots x_{50}}{50}$$

Where, are the values given by the experts for a particular component.

(B) Value of respective component ($_1$)

It is the ratio of obtained score by the respondent to the total obtainable score multiplied by relative weight.

$$(y_1) = \frac{\textit{Obtained score by the respondent}}{\text{Total obtainable score}} \times \text{relative weight}$$

(C) Overall livelihood security index

$$=y_1+y_2+y_3+y_4+y_5+y_6+y_7+y_8$$

- y_1 = Value of asset
- y_2 = Value of living amenities
- y_3 = Value of economic efficiency
- y_4 = Value of ecological security
- y_5 = Value of social equitability
- y_6 = Value of transformation over a period of time
- y_7 = Value of coping strategies against stress
- y_8 = Value of employment status

Then, for each respondent, overall livelihood security index was calculated by summation of values of all eight components as shown in formula C. It should be noted here that based on the relative weight and score range of each of the components, the score of livelihood security index the respondents were classified into three categories on the basis of mean and standard deviation.

Sr. No.	Overall livelihood security	Score
1	**Low**	x < (Mean - SD)
2	**Medium**	(Mean - SD) ≤ x ≤ (Mean + SD)
3	**High**	(Mean + SD) < x

RESULTS AND DISCUSSION

Livelihood security of coastal area farmers

The perusal of data depicted in Table 1 make it clear that half (50.00 Per Cent) of the coastal area farmers had medium level of assets, followed by 28.33 and 21.67 per cent of them who had low and high level of assets, respectively.

Table 1: Distribution of the respondents according to their livelihood security (n= 120)

Sr. No.	Categories	Frequency	Percentage
A	**Assets**		
1	Very low (Up to 8.00 score)	00	00.00
2	Low (8.01 to 11.00 score)	34	28.33
3	Medium (11.01 to 14.00 score)	60	50.00
4	High (14.01 to 17.00 score)	26	21.67
5	Very high (Above 17.00 score)	00	00.00
B	**Living amenities**		
1	Very low (Up to 11.50 score)	11	09.17
2	Low (11.51 to 16.00 score)	99	82.50
3	Medium (16.01 to 20.50 score)	10	08.33
4	High (20.51 to 25.00 score)	00	00.00
5	Very high (Above 25 score)	00	00.00
C	**Economic efficiency**		
1	Very low (Up to 8.00 score)	53	44.17
2	Low (8.01 to 11.00 score)	35	29.16
3	Medium (11.01 to 14.00 score)	32	26.67
4	High (14.01 to 17.00 score)	00	00.00
5	Very high (Above 17.00 score)	00	00.00
D	**Ecological security**		
1	Very low (Up to 4.80 score)	00	00.00
2	Low (4.81 to 6.60 score)	11	09.17
3	Medium (6.61 to 8.40 score)	99	82.50
4	High (8.41 to 10.20 score)	10	08.33
5	Very high (Above 10.20 score)	00	00.00
E	**Social equitability**		
1	Very low (Up to 8.00 score)	32	26.67
2	Low (8.01 to 11.00 score)	49	40.83
3	Medium (11.01 to 14.00 score)	39	32.50
4	High (14.01 to 17.00 score)	00	00.00
5	Very high (Above 17.00 score)	00	00.00
F	**Transformation over a period of time**		
1	Very low (Up to 8.00 scores)	57	47.50
2	Low (8.01 to 11.00 scores)	48	40.00
3	Medium (11.01 to 14.00 scores)	15	12.50
4	High (14.01 to17.00 scores)	00	00.00
5	Very high (Above 17.00 scores)	00	00.00
G	**Coping strategies against stress**		
1	Very low (Up to 9.60 scores)	59	49.17
2	Low (9.61 to 13.20 scores)	40	33.33
3	Medium (13.21 to 16.80 scores)	21	17.50
4	High (16.81 to 20.40 scores)	00	00.00
5	Very high (Above 20.40 scores)	00	00.00
G	**Employment status**		
1	Very low (Up to 19.20 scores)	10	08.33
2	Low (19.21 to 26.40 scores)	98	81.67
3	Medium (26.41 to 33.60 scores)	12	10.00
4	High (33.61 to 40.80 scores)	00	00.00
5	Very high (Above 40.80 scores)	00	00.00
I	**Overall livelihood security index**		
1	Low	11	09.17
2	Medium	94	78.33
3	High	15	12.50

More than three fourth (82.50 %) of the coastal area farmers had low level of living amenities, while 09.17 and 08.33 per cent of them had very low and medium level of living amenities, respectively. None of them was observed to have high and very high level of living amenities. More than one third (44.17 %) of the coastal area farmers had very low level of economic efficiency, followed by 29.16 and 26.67 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. More than three fourth (82.50 %) of the coastal area farmers had medium level of ecological security, followed by 09.17 and 08.33 per cent of them had low and high level of ecological security, respectively. More than one third (40.83 %) of the coastal area farmers had low level of social equitability, followed by 32.50 and 26.67 per cent of them had medium and very low level of social equitability, respectively. Whereas, none of them had high and very high level of social equitability. Less than half (47.50 %) of the coastal area farmers had very low level of transformation over a period of time, followed by 40.00 and 12.50 per cent of them had low and medium level of transformation over a period of time, respectively. Whereas none of them had high and very high level of transformation over a period of time.

The probable reason for very low level of transformation over a period of time might be due to lack of sufficient income generating assets. Slightly less than half (49.17 %) of the coastal area farmers had very low level of coping strategies against stress, followed by 33.33 and 17.50 per cent of them had low and medium level of coping strategies against stress, respectively. Whereas, none of them had high and very high level of coping strategies against stress. Majority (81.67 %) of the coastal area farmers had low level of employment status, followed by 10.00 and 08.33 per cent of them had medium and very low level of employment status, respectively. Whereas, none of them had high and very high level of employment status. The results shown that more than three fourth (78.33 %) of the coastal area farmers had medium level of livelihood security, followed by 12.50 and 09.17 per cent of them had high and low level of livelihood security, respectively.

CONCLUSION

It can be concluded that majority of coastal area farmers had medium level of assets and ecological security. They had low level of living amenities, social equitability and employment status. They had very low level of economic efficiency, transformation over a period of time and coping strategies against stress. Results shown that majority of the coastal area farmers had medium level of overall livelihood security. Governments organizations, and communities should work together to address these factors and implement policies and extension programs that promote livelihood security for all. It is a multifaceted challenge that requires a holistic and inclusive approach to achieve sustainable and meaningful improvements in people's lives.

CONFLICT OF INTEREST

All authors declare that they have no conflict of interest

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