



# ANALYSIS OF LIVELIHOOD SECURITY STATUS FOR WOMEN GROUNDNUT SEED PRODUCERS IN JIGAWA, KANO AND KEBBI STATES, NIGERIA

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#### **ABSTRACT**

The study was aim to comparatively analyse the livelihood security status for women groundnut seed producers in Jigawa, Kano and Kebbi States, Nigeria. A multistage sampling technique was used to sample 180 women groundnut seed producer across the three States studied. Primary data were collected through face-to-face interviews with the use of semistructure questionnaire. The analytical techniques used to achieve the stated objectives of the study were descriptive statistics and livelihood security index. The findings of the study revealed that the composite index score of the overall economic security of women groundnut seed producers in Jigawa (0.5506) and Kebbi States (0.5547) were marginally lower than the score of Kano State (0.6730). The study also revealed that the composite index score of the overall educational security of the women groundnut seed producers in Jigawa (0.1552) and Kebbi (0.1611) States was found to be more vulnerable than Kano State (0.2342). Likewise, the findings of the study further revealed that the composite index score of the overall food security of the women groundnut seed producers in Jigawa (0.5173) and Kebbi (0.5116) States was found to be more vulnerable to food insecurity compare to Kano State (0.5284) respectively. In a related development, the findings of the study also shows that the overall score of the social security status of the women groundnut seed producers in Jigawa (0.5148), Kano (0.5978) and Kebbi (0.5335) States were greater than the mid-value in the overall scale of 0-1 points across the three States. Finally, the findings of the study shows that the overall livelihood securities is highest among women groundnut seed producers in Kano State (0.4539) followed by those at Jigawa State (0.3909) with the lowest found in Kebbi State (0.3874). Therefore, the overall values shows that livelihood securities of women groundnut seed producers across the States are quite low. The study recommends that the women groundnut seed producer should be encourage to diversifying their agricultural production system to achieve food self-sufficiency and enhance family income. The study also recommends that the government should increase economic opportunities for the women groundnut seed producers, in the two States for improving upon their economic security status.

Keywords: Livelihood, Security, Groundnut, Seed, Women, Status, and Producer

#### INTRODUCTION

Nigeria is primarily an agriculture-based economic country. The majority of the people in the country make out their existence directly or indirectly from farm-related economic activities (Tiana, 2020). Rural livelihood has great significance for a country like Nigeria where the majority of the population lives in rural areas (Oladimeji and Abdulsalam, 2015). The present strategy of rural development in Nigeria mainly focuses on poverty





alleviation, better livelihood opportunities, provision of basic amenities and infrastructure facilities through innovative programs, and wage and self-employment (Pradhan *et al.*, 2020). Household livelihood security is defined as adequate and sustainable access to income and resources to meet basic needs including adequate access to food, potable water, health facilities, educational opportunities, housing, time for community participation, and social integration (Regar *et al.*, 2020). The risk of livelihood failure determines the level of vulnerability of a household to income, food, health, and nutritional insecurity.

Therefore, livelihoods are secure when households have secure ownership of, or access to, resources and income earning activities, including reserves and assets, to offset risks, ease shocks and meet contingencies (Saha, 2018). A livelihood is sustainable, according to Barela *et al.* (2018), when it "can cope with and recover from the stress and shocks, maintain its capability and assets, and provide sustainable livelihood opportunities for the next generation". Unfortunately, not all households are equal in their ability to cope with stress and repeated shocks. Poor people balance competing needs for asset preservation, income generation, and present and future food supplies in complex ways (Sathwika *et al.*, 2019). The anecdotal evidence needs to be put to rigorous empirical scrutiny to understand the different dimensions of livelihood security status and suggest appropriate policy measures to ensure a secure livelihood to the women groundnut seed producers in the study area. Thus the study intended to use both qualitative and quantitative approaches together to analyse the livelihood security status of women groundnut seed producers in Jigawa, Kano and Kebbi States, Nigeria.

#### **METHODOLOGY**

### **Study Area**

The study was conducted in 2019 in Tropical Legume III Project (TL III) project States including Jigawa, Kano and Kebbi States. These States are located in Northern Nigeria cutting across Northern Guinea and Sudan Savanna and are notable for groundnut production in the country. Groundnut varietal demonstrations, groundnut research trials and groundnut production promotional activities have been carried out in these States under the project.

### Sample Size

The survey was carried out with the help of extension officers of the Agricultural Development Project (ADP) across the States. Sixty respondents each were selected at random from among project participants list that cultivated groundnut seed in 2018/19 in Jigawa, Kano and Katsina States. Thus, a total of 180 respondents were used for the study.

#### **Data Collection**

Data were collected exclusively from primary sources. The instrument of primary data collection was structured questionnaires which were administered through personal interview. Livelihood security status variables information on the following indicators was used in the study:

- i. Indicators like average income per person earned ( $\mathbb{N}$ ), percentage of livestock own per person ( $\mathbb{N}$ ), percentage of income-generating ventures and monetary savings per person ( $\mathbb{N}$ ) provide insights into the economic security status.
- ii. Indicators like average women literacy level, accessibility to schools (km) and average number of education facilities provide the insight of educational security status.
- iii. Indicators such as dietary diversity:(no. of food groups consumed/day), number of food convenient months in the year, percentage of households that borrow money to buy food and household food grain stock (\(\mathbb{H}\)/person) were included to investigate food security status





iv. Indicators such as the average time to health facility (minute), average malaria exposure preventive index, percentage of family members that have chronic illness, average number of hospital in their community, percentage of family members that do not have a consistence water supply and average Time to water source were included to measure the health security status.

v. Indicators such as percentage of active community participation, average access to support services and percentage of women received support from LGA were used to measure empowerment security status in the study.

### **Analytical Techniques**

To meet the objective of the study, five-point scale method was employed to construct livelihood security Indexes. Indicators are assumed that each indicator has equal weight to the overall household livelihood security index. Farmer's livelihood security index consisted of six livelihood outcomes and were measured based on accessibility, quality, and status. Household livelihood indexes such as economic, education, habitat, food and social security were obtained by aggregating the scores of indicators. Since, each of the sub-components is measured on a different scale, it was first necessary to standardize each sub-component indicator as an index. The standardized indicators of farmers were prepared using the method adopted from human development Index to calculate life expectation index (Regar *et al.*, 2020), and used by (Pradhan, *et al.*, 2020) by the following equation.

$$Z_{indj} = \frac{Indicator - Minimum Value}{Maximum Value - Minimum Value} - - 1$$

Where:

 $Z_{indj}$  = Standardized Indicator j, and is the original value of the sub-component indicator as collected through the field survey. Minimum and maximum values of each sub-component were obtained from a range of each indicator. These minimum and maximum values were used to standardize the indicator. From the standardized indicators, livelihood security Index (LSI) was calculated by averaging the standardized indicators by using equation (2).

$$LSI = \frac{\sum_{J=1}^{J} Z_{indj}}{J} - - - 2$$

Where;

*LSI* = Farmer Livelihood Security Index

I = Number of indicators used in the Index.

Once each LSI was constructed, then the composite overall livelihood security Index (LSI) for an individual farmer was constructed by using the following equation (3).

$$L_{i} = \frac{\sum_{j=1}^{6} W_{i} \cdot HLSI}{\sum_{j=1}^{6} W_{i}} --- 3$$

Where;

 $L_i$  = Livelihood security index

 $W_i$  = Weight determined by the number of indicators used each index.

*LSI* = Livelihood Security Index

Its value lied between 0 and 1. If the value is close to zero, the livelihood status of the farmers in the study area is poor, and if it is close to 1, livelihood status is good.





#### RESULTS AND DISCUSSIONS

# Analysis of Livelihood Security Status for Women Groundnut Seed Producers across the Sampled States Economic Security Status

The result in Table 1 shows that the average income among women groundnut seed producers in Kano State (0.6175) was higher than those from Jigawa (0.4955) and Kebbi (0.5202) States. This implies that on average women groundnut seed producers in the selected villages of Kano State earned more income compared to those in the other selected villages of the other States. One plausible reason for the differences in the average incomes may defend on the types of economic activities engage by the women in the various communities apart from the sole groundnut seed production. With regard to livestock, the score of women's livestock ownership was almost similar in the selected villages across the States. Table 1 further revealed that, about 45.7 %, 45.6 % and 46.1 % of the women interviewed in Jigawa, Kano and Kebbi States respectively, keep small ruminants such as goat and sheep for future consumption, selling or both. This implies that women groundnut seed producers across the States purposely keep livestock as a store of value. They sell their livestock to transact one time payments such as paying children school fees, buying new clothing and preparing their young girls for marriage as reported during the focus group discussion. Likewise, the average number of income-generating ventures per women groundnut seed producer across the States was found to be 2 with maximum of 3 and minimum of 1. The result from Table 1 also revealed about 40.18 %, 56.96 % and 44.76 % of the women groundnut seed producers in Jigawa, Kano and Kebbi States respectively; operate two livelihood ventures, mostly agriculture and agro-processing or agriculture and petty trading with the majority of them found in Kano State. This implies the importance of agroallied activities among the women groundnut seed producers across the study area.

In a similar vein, the result further shows that the saving stock among the women groundnut seed producers in Kano State (0.5701) is higher compared to Jigawa (0.4673) and Kebbi (0.4268) States respectively. This means that the saving culture among rural communities in Kano State is higher. It can be concluded that savings in Jigawa and Kebbi States were extremely insecure among the women groundnut seed producers. However, it must be noted that the saving used here was the total stock of the women saving, but not the proportion of income. The test further shows that the average saving stock among farmers across the States were statistically different at 5 % level. Therefore, the composite index score of the overall economic security of women in Jigawa (0.5506) and Kebbi States (0.5547) were marginally lower than the score of Kano State (0.6730), indicating higher economic instability among the women groundnut seed producers in Jigawa and Kebbi States respectively, which emphasized on the urgency of increasing economic opportunities for the women groundnut seed producers, in the two States for improving upon their economic security status. The results further reveal that there was a statistically significant difference at 1 % level (P<0.01) between the means economic security of women groundnut seed producers across the States, respectively. The finding is in line with the work of Shyamalie and Sani (2011), who pointed out that economic security of women was lower in Kangra, India and Nuwara Eliya, Sri Lanka.





**Table 1** Economic Security index

<b>Sub-indicators</b>	Jigawa	Kano	Kebbi	^F-test
Average income per person earned (N)	0.4955	0.6175	0.5202	7.3476***
Percentage of Livestock own per person (₹)	0.4572	0.4562	0.4605	
Number of income-generating ventures (%)	0.4018	0.5696	0.4476	
Monetary savings per person (₦)	0.4673	0.5701	0.4268	
Aggregate Mean Score	0.5506	0.6730	0.5547	

Note:  $^F$ isher F (ANOVA) test \*\*\* p < 0.01

### **Educational Security Status**

The study found that the average literacy score was lower among women groundnut seed producers in Jigawa (0.1985) and Kebbi (0.1921) States in comparison to that of Kano State (0.2292) (Table 4.17), an indication that literacy level in the two States among the women groundnut seed producers was very low. For instance, in Nigeria, it takes six years for one to complete primary school (class one to six). The result is conforming to the 3 years in school as shown in the analysis of the socio-economic variables (Table 2). This implies that, on average, none of the farmers have completed primary school across the States. This is due to the fact that majority of the farmers have no formal education and were most often married at the early stage which is a common occurrence in the studied States.

Furthermore, Table 2 revealed that the women groundnut seed producers in Jigawa State reported that their children travelling an average distance of (0.0128) meters because of poor access to school in their community while those in Kano and Kebbi States traveled for an average of (0.0067) and (0.0084) meters respectively. This implies that children in Kano and Kebbi States accessed school more easily than in Jigawa State. This long distance taken in accessing education facilities will definitely increase their level of exposures to education insecurity. The result of the analysis in Table 2 further reveal that the average number of education facilities available in Kano (0.4667) and Kebbi (0.2827) States have higher mean values than in Jigawa State (0.2544). This implied that the availability of educational facilities stood in a better level in the two States than in Jigawa State. This simply means that majority of the farmers in the two States (Kano and Kebbi) has more access to information regarding educational opportunities for their children. The study further found that the basic schooling facilities for their children are provided by both the State and local government as every village was found to have a primary school as reported during the focus group discussion.

When all the results of the sub-components were aggregated, Jigawa (0.1552) and Kebbi (0.1611) States was found to be more vulnerable than Kano State (0.2342). This imply that the educational security of women in Jigawa and Kebbi States was more vulnerable than their sister counterparts in Kano State. However, the overall values of educational security across the States are less than 0.5, which indicates that the level of educational security was found to be poor as, majority of the women were having low levels of educational security across the States. However, though the index scores of the overall educational security of women across the three States were less than the mid values in the scale of 0-1, the ANOVA tests shows that there are no statistical differences between the educational status of women groundnut seed producers in the studied states. This has serious implication on their farming business. The finding is in line with the work of Regar *et al.* (2020), who found that the





maximum number of the respondent (55.42 %) had a low to a medium level of educational security.

Table 2 Educational Security index

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<b>Sub-Indicators</b>	Jigawa	Kano	Kebbi	^F-test
Average women literacy level	0.1985	0.2292	0.1921	0.8216
Average time to schools (km)	0.0128	0.0067	0.0084	
Average number of education facilities	0.2544	0.4667	0.2827	
Aggregate Mean Score	0.1552	0.2342	0.1611	

<sup>^</sup>Fisher F (ANOVA) test

### **Food Security Status**

As for food security in terms of dietary diversity (number of food groups consumed per day) score, the result in Table 3 reveals that the women groundnut seed producers in Kano (0.0193) State consumed more different food groups per day than their counterparts in Jigawa (0.0184) and Kebbi (0.0108) states. It was also found in the study that the women groundnut seed producers in Kano State (0.8083) reported that on average they are able to meet their food needs from their own farm (approximately 10 months). This compares with about (0.7083) and (0.5883) in Kebbi and Jigawa States (approximately 9 to 7 months respectively). The study further found that about 54 %, 48 % and 52 % of the sampled farmers borrow money to buy food across the States studied. In the same vein, the study further revealed that the women groundnut seed producers in Kano State reported that their expenditure on food items reduce by about 39 % compared with their counterpart in Jigawa and Kebbi States who reported about 53 % and 42 % reduction on the food item respectively. Food insufficiency was one of the implications of food vulnerability as reported by Regar *et al.* (2020).

When all the results, in Table 3, of the sub-components were aggregated, Jigawa (0.5173) and Kebbi (0.5116) States were found to be more vulnerable to food insecurity compared to Kano (0.5284) respectively. This higher food security score in Kano State could be explained in terms of the fact that the selected villages in the State had less flood incidence of 2019/2020 cropping season and had a well-functioning food distribution system for the poor families than the selected villages in Jigawa and Kebbi States. This could also be attributed to the fact that the women in Kano State have easy access to farmland under different arrangements (rented and family land) than in Jigawa and Kebbi State, as this facilitates the production of different crops, and thereby reduces the women vulnerability to food insecurity. This result is in accord with the results of Sathwika *et al.* (2019) who found that majority (70.00 %) of the respondent had a medium level of food security.





**Table 3** Food Security Status

		States		_
Sub-indicators	Jigawa	Kano	Kebbi	^F-test
Dietary diversity:(No. of food groups consumed/day)	0.0184	0.0193	0.0108	5.389***
Average No. of food convenient months in the year	0.5833	0.8083	0.7083	
% of farmers that borrow money to buy food	0.5412	0.4775	0.5231	
Share of farmers budgets spent on food items reduced	0.5228	0.3872	0.4224	
Aggregate Mean Score	0.5173	0.5285	0.5116	

<sup>^</sup>Fisher F (ANOVA) test \*\*\* p < 0.01

### **Health Security Status**

The result of the research in Table 4 found that women groundnut seed producers in Jigawa State had greater vulnerability (0.0236) for the average time a household took to reach a health facility than Kano (0.0132) and Kebbi (0.0167) States respectively. Inadequate access to health services tends to decrease the health status of smallholder farming households, thereby increasing their vulnerability to extreme livelihood insecurity situation. Furthermore, according to Table 4, chronic illness among women groundnut seed producers was found to be more prevalent in the selected villages of Jigawa State (49.5 %) than in Kano (32.4 %) and Kebbi (39.5 %) States respectively. In a similar vein the study also found that women groundnut seed producers in Kano State also shown a less vulnerability (0.3811) on average malaria exposure prevention index than those in Jigawa (0.2738) and Kebbi (0.2633) States respectively.

The study also found that about 57 % and 46 % of the women groundnut seed producers in Kano and Kebbi States have a good access to health care facility in their communities whereas about 24 % of those in Jigawa State have less access to hospital in their communities (Table 4). This might be due to the fact that the farmers in the two States (Kano and Kebbi) are quite aware of their health conditions and implement the necessary measures for the improvement of their health conditions. And it was also noted during the field survey that there exist considerable access to primary health care centers and basic hospitals, which were found to be nearer to the selected villages in Kano and Kebbi States as compared to those in Jigawa State. According to Tiana (2020) inadequate access to health services tends to decrease the health status of smallholder farming households, thereby increasing their vulnerability to extreme health conditions.

In addition the study further revealed that about 59 % and 49 % of the women groundnut seed producers in Kano and Jigawa States were reported to have low sources of water supply in their villages while about 26 % of the sampled women reported low sources of water supply in Kebbi State (Table 4). It implies that majority of the women groundnut seed producers in Kebbi State have safe drinking water facilities due to the availability of boreholes, hand pumps and deep tube wells as compared to those in Jigawa and Kano States. Water was mostly sourced by women and children, due to the short distance to water sources for communities across the States studied, this task reduced time available for the burden of household chores and slightly affected time for care in the case of the women and school attendance in the case of the children. However, during dry season women groundnut seed producers in Kebbi State (0.0049) was less vulnerability for the average time a family





member took to reach a water source than Kano (0.0063) and Jigawa (0.0097) States respectively. This implies that due to the availability sources of water in selected villages of Kebbi States, the women groundnut seed producers were not affected much during the dry season when most natural water sources tended to dry up compare with those in Jigawa and Kano States respectively. When all the sub-components were aggregated, Kano (0.3113) and Jigawa State (0.2559) States showed less vulnerability to health security than Jigawa State (0.2331).which indicates the higher health status and their better access to health care facilities available in the selected villages of the two States (Kano and Kebbi). However, the results of the analysis in Table 4 indicate that the overall mean of the health security status across the sample States were statistically different at 1 % level of probability. The findings supported by the work of Saha (2018), who found that most (95. %) of the respondent had a medium level of health and sanitation status.

**Table 4** Health Security Status

		_		
<b>Sub-indicators</b>	Jigawa	Kano	Kebbi	^F-test
Average time to health facility (Minute)	0.0236	0.0132	0.0167	12.5498***
% of family members that have chronic illness	0.4961	0.3243	0.3945	
Average malaria exposure preventive index	0.2738	0.3811	0.2633	
% of hospital in their community	0.2378	0.5715	0.4625	
% of family members do not have				
consistence water	0.4946	0.5715	0.2565	
Average time to water source	0.0097	0.0063	0.0049	
Aggregate Mean Score	0.2559	0.3113	0.2331	

 $<sup>^{\</sup>text{Fisher F}}$  (ANOVA) test \*\*\* p < 0.01

### **Social Security Status**

The result in Table 5 shows that among the villages of the three States, the level of active women participation in community organization was high in Kano State (66.8 %) compared to that of Jigawa (49.6 %) and Kebbi (49.2 %) States respectively. This may be due to an influx of donors' activities into the State as compared to that of the other two States. The second indicator is the average access to services. This is measured based on whether the family member received any service such as training, credit, health awareness, water and sanitation, culture and other urban amenities from any provider. Majority (about 66 % and 56 %) of the women groundnut seed producers in Kano and Kebbi States reported to have an access to services in their community compared to 46 % of the sampled women in Jigawa State. In spite of longer involvement with different organizations, women in Jigawa State had lower access to support service.

The study also found that about 59 % of the family member in Jigawa State did not approach their local authority for any help for the last 12 months while about 47 % of the family member in Kano State and 45 % of the family member in Kebbi State did not approach their local authority for any assistance. This could be as a result of lack of awareness of the benefit or unfair treatment of the farmers by the government agents. These results also imply that even though the family members in the three States received help, they preferred seeking assistance from their friends and relatives rather than from their local government authorities. Even though, the results show that the overall score of the social





security status (0.5148), (0.5978) and (0.5335) respectively were greater than the mid-value in the overall scale of 0-1 points across the three States, the result of ANOVA-test indicated that there is significant difference in the mean social security status at 5 % significant level. The present finding is similar to the work of Pradhan, *et al.* (2020), who are of the opinion that the farming households preferred seeking assistance from their friends and relatives rather than from their local government authorities.

Table 5 Social Security index

		-		
<b>Sub-indicators</b>	Jigawa	Kano	Kebbi	^F-test
Percentage of active community participation	0.4955	0.6675	0.4924	2.356**
Percentage of women access to support services	0.4572	0.6562	0.6605	
Percentage of women received support from LGA	0.5918	0.3696	0.3476	
Aggregate Mean Score	0.5148	0.5675	0.5335	

 $<sup>^{\</sup>text{Fisher F}}$  (ANOVA) test \*\* p < 0.05

# Overall Livelihood Security Status of Women Groundnut Seed Producers across the sampled States

Using the five security components discussed above; economic security, educational security, food security, health security and social security, an overall security index was computed, this is technically the average of the five components. This was done to measure crudely the level of living of the sampled women groundnut seed producers across the States. On average, the result in Table 6 shows that the overall security is highest among women groundnut seed producers in Kano State (0.4539) followed by those at Jigawa State (0.3909) with the lowest in Kebbi State (0.3874). Therefore, the overall values shows that livelihood securities of women groundnut seed producers across the States are quite low. Comparatively, none of the sampled State recorded an average of more than 0.50. This implies that the women groundnut seed producers across the States were under the low livelihood security trap which is a matter of great concern.

 Table 6: Overall Livelihood Security Index

	-	States		•			
Major Components	Jigawa	Kano	Kebbi	W	Livelihood	Security	Index
1.Economic Security	0.5506	0.6730	0.5547	4	2.2024	2.692	2.2188
2.Educational Security	0.1552	0.2342	0.1611	3	0.4656	0.7026	0.4833
3.Food Security	0.5173	0.5285	0.5116	4	2.0692	2.114	2.0464
4.Health Security	0.2559	0.3113	0.2331	6	1.5354	1.8678	1.3986
5. Social Security	0.5148	0.5675	0.5335	3	1.5444	1.7025	1.6005
Total				20	7.817	9.0789	7.7476
Overall livelihood index					0.3909	0.4539	0.3874

Note; W= Weighted score

Furthermore, a hierarchical cluster analysis was done in order to group the farmers together at various levels of similarity on the basis of the overall livelihood security status index. The overall livelihood security index was clustered at three major centres (Table 7). The first cluster was made up of only 5.9 % of the sample farmers across the State, with





average index of 6.18. The farmers in this cluster by their high positive indices were the least vulnerable to livelihood security in the study area. The second cluster with an average livelihood security index of 3.35 was the unsecured group comprising majority (63.2 %) of the sampled farmers in the study area. Cluster three with an average livelihood security index of 1.24 had 30.9 % of the farmers clustered around it. This implies that the sample farmers in this cluster although had positive indices were characterized by low values, hence, were considered to be highly vulnerable to livelihood security across the States.

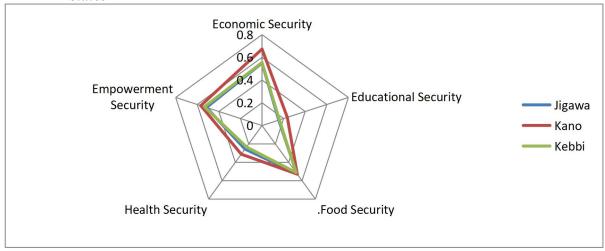
**Table 7** Distribution of vulnerability Indices across the States

	States				
Clusters	Jigawa	Kano	Kebbi	Pooled	
Cluster 1: (6.18)	8.4	4.3	5.0	5.9	
Cluster 2 :(3.35)	66.4	59.8	63.3	63.2	
Cluster 3: (1.24)	25.2	35.9	31.7	30.9	
Total	100	100	100	100	

Cluster 1 = Less Vulnerable, Cluster 2 = Vulnerable and Cluster 3 = High Vulnerable

The results of all the five major components were further summarized in figure 1. The livelihood security index spider diagram ranges between 0 -1. It was found from the livelihood security score of each indicator that out of the five major components, economic, food and empowerment securities status had the moderate index values with the educational and health security securities had the lowest level across the States. This result was in agreement with Jeyarajah (2016) who found that empowerment and habitant security had the highest index value of 0.718 but this result was contrary to the finding of Lal *et al.* (2015) who found that Educational security had the highest index value of 0.560.

Figure 1: Mean Score of different components of Livelihood Security Status across the States







#### CONCLUSION AND RECOMMENDATION

The study concluded that educational security status stood in a comparatively very lower position while economic, food, health and social securities were relatively in a moderate level across the States. It has also been found from the result that the overall livelihood security status of the women groundnut seed producers across the States studied were very low. Therefore, the study recommends that the farmers should diversify in their income generating activities such as processing and packaging of the seed to achieve food self-sufficiency, reduction of extreme poverty, malnutrition and enhance family income.

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