Effect of Land Degradation on Farmers’ Food Security and Poverty Status Nexus Livelihood Diversification in Nigeria

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Introduction

- The UN Convention to Combat Desertification, of which Nigeria is a consigner, recognizes land degradation as a global development & environment issue.
- The links between poverty and degraded land or the environment interconnected with rural livelihood diversification are influenced by the interaction of socio-economic, demographic and climatic factors.
- The objective of this study was to assess the effect of land degradation on smallholder farmers’ food security and poverty status nexus livelihood diversification in north central, Nigeria.

Materials and Methods

- Structured questionnaire was employed to collect the relevant primary data.
- A multistage random farming household survey resulted into 240 farmers filtered to 92 and 148 land degraded farmers (LDF) and non-degraded farmers (NDF) respectively.
- Descriptive statistics, perception index, food security & poverty multidimensional indices, dichotomous regression models were used to achieve the aims of the study.

Results and Discussion

- Table 1: Farmers' knowledge and perception of land degradation (n=330)

<table>
<thead>
<tr>
<th>Degraded indicators</th>
<th>F*</th>
<th>%</th>
<th>Perception index</th>
<th>Degraded remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Erosion</td>
<td>287</td>
<td>86.97</td>
<td>4.19</td>
<td>Extremely</td>
</tr>
<tr>
<td>Nutrient deficiency</td>
<td>229</td>
<td>69.39</td>
<td>3.67</td>
<td>Severely</td>
</tr>
<tr>
<td>Soil colour changes</td>
<td>207</td>
<td>62.73</td>
<td>2.43</td>
<td>Moderately</td>
</tr>
<tr>
<td>Water logging</td>
<td>173</td>
<td>52.42</td>
<td>2.28</td>
<td>Moderately</td>
</tr>
<tr>
<td>Loss of vegetation</td>
<td>102</td>
<td>30.91</td>
<td>1.95</td>
<td>Slightly degraded</td>
</tr>
<tr>
<td>Others</td>
<td>69</td>
<td>20.91</td>
<td>1.06</td>
<td>Not/SLightly</td>
</tr>
</tbody>
</table>

- fig. 1 shows only 12% of LDF were food secured while about 40% of NDF were food secured.
- The t-statistics of farmers’ expenditure & Cumulative Distribution Function (fig. 3) indicated that there was statistically significant difference between expenditure incurred between the two categories of farmers.
- Poverty was more prevalent and severe among farmers whose land was degraded compared non-degraded farmers.

Conclusions and Outlook

- This research showed that the LDF are susceptible to higher poverty status, more vulnerable to food insecurity and higher livelihood diversification outside agriculture.
- The distribution of strategies adopted by the farmers in mitigating land degradation were ranked using mean index and these include:
  - inter / mixed cropping / crop rotation,
  - plant tree at edge
  - organic manure among others