The Impact of Adoption of Forage Fodder Banks on Labor Use For Feeding Cattle in Prey Chhor District, Kampong Cham Province, Cambodia

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I. Introduction

- In Cambodia, most cattle are raised by small-holder farmers in the rural area. Farmers commonly use native grass from communal land, rice straw from their fields as feed for their animals.
- Farmers have to spend a lot of time for grazing their cattle and finding natural grass to cut and carry back to the village. This is generally done by all household members including children.
- From 2003-05, the CIAT Livelihood and Livestock Systems Project introduced forage fodder banks to smallholders in an attempt to improve feed supply.
- In 2008, an impact study was conducted to measure the impact of forage fodder banks on labor use for feeding cattle.

II. Research methodology

- Using a structured questionnaire, a total of 143 households were interviewed.
- Respondents fell into three adoption groups:
  1. Adopters = 43 households
  2. Non-adopters (exposed) = 50 households who lived in the same village as adopters and knew about forages but had not adopted.
  3. Non-adopters (not-exposed) = 50 households from similar, nearby villages who had not been exposed to forage fodder banks.

Table 1: Household characteristics

<table>
<thead>
<tr>
<th></th>
<th>Adopters</th>
<th>Exposed</th>
<th>Not exposed</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household member</td>
<td>5.1</td>
<td>5.9</td>
<td>5.7</td>
<td>5.5</td>
</tr>
<tr>
<td>Total land size (ha)</td>
<td>1.5</td>
<td>1.3</td>
<td>1.4</td>
<td>1.4</td>
</tr>
<tr>
<td>Forage plot (m²)</td>
<td>485</td>
<td>0</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Number of cattle</td>
<td>4.2</td>
<td>3.6</td>
<td>4.3</td>
<td>4</td>
</tr>
</tbody>
</table>

Table 2: Labor use for feeding and managing cattle by season (hrs/day/hh)

<table>
<thead>
<tr>
<th></th>
<th>Adopters</th>
<th>Exposed</th>
<th>Not exposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry season</td>
<td>5.1ᵇ</td>
<td>7.3ᵇ</td>
<td>6.6ᵇ</td>
</tr>
<tr>
<td>Early raining season</td>
<td>4.2ᵇ</td>
<td>6.0ᵇ</td>
<td>5.8ᵇ</td>
</tr>
<tr>
<td>Flooding season</td>
<td>1.7ᵇ</td>
<td>3.7ᵇ</td>
<td>4.6ᵇ</td>
</tr>
</tbody>
</table>

ᵇ Means within rows with different superscripts are significantly different (P<0.05)

III. Results

- Average land and household size and was 1.4 ha and 5.5 people respectively. On average, each household raised 4 cattle. The average plot size of forage fodder banks was 485 m².
- Despite this small forage area, adopters spent significantly (P<0.05) less time on feeding and managing cattle than non-adopters in all seasons (Table 2).
- In the dry season, adopters spent 5.1 hours per day feeding and managing cattle, as compared to 7.3 hours for non-adopters (exposed) and 6.6 hours for non-adopters (not-exposed).
- In the early wet season, adopters spent 4.2 hours per day for feeding cattle, as compared to 6.0 and 5.8 hours for non-adopters (exposed and not-exposed), respectively.
- During the flooding period, farmers were very busy with growing rice and labor was most constrained. During this time, adopters saved 2 hours each day compared to non-adopters (Table 2).

IV. Conclusion

- In conclusion, forage fodder banks significantly reduced the amount of time needed to feed and manage cattle in all season.
- The most appropriate benefit was in the flooding season when households who had adopted forage fodder banks saved at least 2 hours each day.

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