Integrating gender analysis in understanding dual-purpose cattle breeding practices in Nicaragua

Ojango J.1, Mena Urbina M.2, Mora Benard, M.A.2, Corrales R3, Oyieng E.1, Galiè A.3, Wurzinger, M.4, Van Der Hoek, R.2
1International Livestock Research Institute (ILRI), Kenya,  
2 International Center for Tropical Agriculture (CIAT), Nicaragua,  
3National Agrarian University (UNA), Nicaragua,  
4University of Natural Resources and Life Sciences (BOKU), Dept. of Sustainable Agricultural Systems, Austria

Introduction
Little is documented on intra-household gender dynamics and locally specific gender norms that affect differential gender roles affecting:

- Management of cattle
- Adoption breeding technologies
- The choice of preferred breeds of cattle to rear

Methodology
Participatory and quantitative approaches were used to collate information from different categories of farmers in Camoapa Municipality of Boaco in Central Nicaragua. Data disaggregated by the gender of the household head was collected over 8 months from 59 households on:

- The main breeds of cattle used for milk production on the farms
- Mating management practices in the cattle herd
- The daily Milk production by individual animals of different breeds

Summary statistics and analyses of variance were carried out using Genstat

Main breeds of cattle milked depending on the gender of the household head

<table>
<thead>
<tr>
<th>Breed</th>
<th>Male household head</th>
<th>Female household head</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brahman</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Brown Swiss</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Holstein</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Other Cross</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Average daily milk production by animals of different breeds within households headed by men and women

<table>
<thead>
<tr>
<th>Gender of household head</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brahman</td>
<td>3.41±1.7</td>
<td>2.50±1.3</td>
</tr>
<tr>
<td>Brown Swiss</td>
<td>3.86±1.7</td>
<td>3.56±1.6</td>
</tr>
<tr>
<td>Holstein</td>
<td>4.25±2.5</td>
<td>3.04±1.3</td>
</tr>
<tr>
<td>Other Cross</td>
<td>4.23±1.5</td>
<td>3.06±1.7</td>
</tr>
</tbody>
</table>

Findings
The male to female ratio of the gender of household heads is 7:3
Irrespective of the gender of the household head, Animals of all breed types are kept in milk beyond 365 days
Average daily milk production per animal was significantly lower (P<0.01) in female headed households than in male headed households
Farmers depend heavily on bulls either reared on their own farms or purchased from neighboring farms for mating. Only 10% of the households reported to have ever used AI.

Reasons for Low adoption of AI
1. Limited access to timely AI service, no semen storage facilities
2. Conception rates following use of AI are low
3. Detection of heat in cows served using AI is very poor
4. Few AI service providers, living long distances away from farms
5. Service of animals by bulls is relatively “free” while AI costs
6. Limited knowledge on AI procedures, no skills in heat detection. Use of AI creates dependency on external support which is undesirable

Conclusion
- There are real gender differences in access to and use of livestock breeding technologies in the farming systems of Camoapa
- A gendered approach in implementing breeding improvement programs is needed for equitable progress