LOW INPUT AGRICULTURE AND SUSTAINABILITY USING GOATS

SANDRA G. SOLAIMAN, PHD, PAS
PROFESSOR EMERITUS & ADJUNCT PROFESSOR
COLLEGE OF AGRICULTURE, ENVIRONMENTAL AND NUTRITION SCIENCES
TUSKEGEE UNIVERSITY
ALABAMA-USA
THE BEGINNING
B. S. in Animal Husbandry
College of Ag.
Urmiah
1974
Master of Science
Animal Nutrition
Oklahoma State University

PhD
DAIRY SCIENCE
RUMINANT NUTRITION
University of Missouri
TUSKEGEE UNIVERSITY
College of Agriculture and Environmental Sciences
My three Wonderful Children

Among them
2 Chemical Engineers
3 MBA
1 MD
1 BA
WORKED STUDENTS CONDUCTED RESEARCH
WORKING WITH PRODUCERS ON FARM RESEARCH
INTERNATIONAL DEVELOPMENT

• INDIA
• BURKINA FASO
• MALI
• HAITI
• SOUTH AFRICA
• MEXICO
• BRAZIL
INVITED SPEAKER

USAID PROJECT INDIA

ATTENDED IGA
BENARES HINDU UNIVERSITY

GANGI RIVER
Ammonium Hydroxide Treatment of Sorghum Stover
Burkina Faso
SOUTH AFRICA VISIT

IGA FARMER VISIT
INVITED LECTURER
San Paulo State University
BRAZIL
LOW INPUT AGRICULTURE

IMPROVING INCOME GENERATION OF PASTORAL WOMEN, MALI
LOW INPUT AGRICULTURE SYSTEM

- Low input in terms of off farm input
- High input in terms of on farm input
- Uses natural resources
- Intensifies management
- Increases creativity
- Improves agriculture sustainability
- Improves food security
OBJECTIVES

• To assist women associations to identify constraints
• To identify and test low cost appropriate technology for improving productivity.
• To identify appropriate marketing strategies
• To monitor socioeconomic impact on family income achieved by adopting of improved technology
MATERIALS AND METHODS

CONDUCTED at TWO VILLAGES

- TOTALLY PARTICIPATORY
- ID WOMEN ASSOCIATIONS
  - ID WOMEN PARTICIPANTS
- ID EXTENTION PERSONEL

SURVEY CONDUCTED/INTERVIEW

- ID PROBLEMS/OPORTUNITIES
- RESOURCES

ECONOMIC MONITORING

MICRO FINANCING
WOMEN WORKERS

RESOURCES

ANIMALS

EXTENSION

FEED IN MARKET

FORAGE
Check Animal Condition
SEVERAL MEETINGS AT THE VILLAGE LEVEL
SPECIFIC SITES

Village of Boron
- 40 women were selected
- 20 Fattening
  - 10 traditional
  - 10 improved Technology

Village of Konica
- 20 Women were selected
- 10 Fattening
  - 5 Traditional
  - 5 Improved Technology
TREATMENTS

Traditional
• Feeding Cowpea/Peanut hay and sorghum free choice.
• Fattening for more than 6 months.
• Limited veterinary intervention

New Improved Technology
• Feeding of 1kg peanut hay and cowpea hay harvested and stored properly plus 200 g sorghum.
• Fattening about 3 months
• Before major holiday.
• Limited Veterinary intervention
# PERFORMANCE UNDER TRADITIONAL AND IMPROVED PRACTICES

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Traditional Practice</th>
<th>Improved Practice</th>
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</thead>
<tbody>
<tr>
<td>Animal #</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Weight day 0, kg</td>
<td>40.3</td>
<td>43.6</td>
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<tr>
<td>Weight day 98, kg</td>
<td>42.93</td>
<td>49.03</td>
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<tr>
<td>Weight Gain, kg</td>
<td>2.61</td>
<td>5.43</td>
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<tr>
<td>Average Daily Gain, g</td>
<td>27</td>
<td>59</td>
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<tr>
<td>DMI, kg/day</td>
<td>1.26</td>
<td>1.55</td>
</tr>
<tr>
<td>Supplement/kg gain</td>
<td>8.03</td>
<td>5.95</td>
</tr>
</tbody>
</table>
RESULTS

Improved Technologies were more profitable
These village women faced many socioeconomic constrains
TAKE HOME MESSAGE

IMPORTANT FACTORS FOR SUCCESS

PROBLEMS ENCOUNTERED
PARTICIPATORY PLANNING AND MANAGEMENT

• Define improvement.
• Assessing existing situation.
• Define problems.
• Developing realistic solutions.
• Have clear roles of women workers, women associations, the government and the private sector.
• Women participants need to be empowered to demand services.
• Enabled to supply their own services.
WOMEN ASSOCIATIONS

- Mutual support and encouragement.
- Breeding services.
- Veterinary services.
- Feed/fodder.
- Cost-effective input supply.
- Technical support and training.
- Product processing.
- Improve access to markets.
Problems Encountered

- Women had access only to low fertile lands
- Low level of capital makes their production system unstable
- Difficulty to access credit
- Extension personnel only works with men
- Men do not want women to have economic freedom
THE ROLE OF GOVERNMENT—POLITICAL AND CULTURAL BIASES

• Great deal of prejudice and ignorance of the importance of goats to farmers in rural areas.
• The contribution of goats to the national economy is under-estimated.
• The goat has been a servant of mankind and offers huge potential for transforming the lives of some of the poorest people in the world.