Extensive Livestock Production System for Sustainable Food System

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LARGE PARTS OF INDIA AREA RAINFED

Largest Rainfed Areas in World
86 Million Hectares

Poverty Landscape of India overlaps with Rainfed Areas; & high Density of Tribal population
RAINFED AREAS - UNTAPPED POTENTIAL

EXPONENTIAL POTENTIAL for
FOOD SECURITY
NUTRITIONAL SECURITY

88% Pulses
69% Oilseeds
42% Rice

% Gross cropped area of pulses, oilseeds & rice rainfed in India
Source: Agricultural Census 2011

for
RURAL LIVELIHOODS
ENVIRONMENTAL REGENERATION
SUSTAINABLE INTEGRATED PRODUCTION SYSTEMS

% Livestock output from rainfed areas

55% Indigenous Cattle
50% Goats
61% Sheep

Source: Livestock Census 2011
Rainfed areas are Native Track of Most of the livestock breeds in India

Greater Diversity of the Livestock Breeds and species in Rainfed Areas
Male indigenous cattle (Draught power)

Most of the Breeds of cattle are draught breeds, more resilient but now out of the farming system due to the promotion of Mono cropping.

Bullock supports multi-cropping system – helps in sustainable food production.

Bullock still source of livelihoods of several communities.

5 Cr Economy of Bullock Trade in Amrabad Mandal
Bullocks supports Diverse Crop Systems for Sustainable Food Production
High density in Irrigated belt with intensive system with few exceptions.

High use of Antibiotic in these Intensive system

The exceptions are pastoral production system which produce significant amount of milk but having less occurrence of diseases

Eg. 19 Panchayats in Banni produces > 1.5 lakhs Lt everyday

Revival of Dairy in Kutch district created 900 cr annual Economy and Impacted on Pastoral Livelihoods
Experiences from the Ground

• Communities and Breeds – Kharai Camel

• Animal use salinity in their favour – graze of saline species

This system, mostly antibiotic free, having high medicinal value, just recently recognized
Goat & Sheep Population dynamically adjusts with the forage resources

- 500 acres of revenue forests regenerated in this village linking with MGNREGS facilitated by REDS, an NGO.
- Dependent communities were organised into protection committees and sustainable use and usufruct sharing norms were established.
- With regenerating biomass in the commons, sheep population increased from 450 to 3000 (about 7 times) in 5 years. And, the number of sheep rearing families increased from 5 to 21.
- Last two years sheep herders did not migrate from the village.
Stories of Resilience & economic revival

Goat & Sheep Population dynamically adjusts with the forage resources

K N Palayam Village, Kadiri Mandal, Anantapur District.

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Integrated Natural Farms through Free Range Desi Poultry

WHY

- Escape predator easily
- Easy to handle
- Local Knowledge
- More disease resistant
- Natural regeneration

5 States
Piloted in 5 States with RRA Network Partners

Experience / Result

- 200+ Tribal enterprises developed
- 80 k – 120 k
  - 30% Enterprises
  - 50 k – 80
    - 50% Enterprises
  - 50 k
    - 20% Enterprises

- 15000 Tribal households covered
- 84 %
  - Poultry in Backyard in the Country is DESI

However due to lack of system approach potential of Backyard Poultry has not been realized in terms of Income and Nutrition Security.

Decentralized Chick Production (Breeding Farm) in ½ ac Land
Diversify Income Sources by Integrating fruits-vegetables-crops
Decentralized Healthcare Services
Promote Natural Habits of Birds for foraging
Common Interest Group to Manage Poultry Service Fund

> 25%
Reduction in Mortality

Scaled up in Andhra Pradesh with Animal Husbandry Department and TRICOR

Tribal enterprises developed
30% Enterprises
50 k – 80
50% Enterprises
50 k
20% Enterprises

Tribal households covered
80 k – 120 k
30% Enterprises
50 k – 80
50% Enterprises
50 k
20% Enterprises
Complementary with Natural Farming

No external commercial feed

Most of the raw materials for BYP forage and feed grown in the Farm - Crops, Waste of Vegetable, Fruits

Poultry waste are used for soil health improvement

Poultry helps in reducing insects of vegetables and fruits

Ethno-veterinary practices helped in flock immunity

Canopy cover (50%) of plantation helped in lowering temperature in summer, helpful for poultry

Health Benefit of Desi Poultry

1/3 Less Cholesterol

1/4 Less Saturated Fat

2/3 More Vitamin A

3 More Vitamin E

2 Times more Omega-3

7 More Beta - Carotene
<table>
<thead>
<tr>
<th>Extensive Livestock System</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Grazing based</td>
<td>Stall fed</td>
</tr>
<tr>
<td>Utilize natural Resources from Commons</td>
<td>Depend on Fodder and Feed</td>
</tr>
<tr>
<td>Low External Inputs</td>
<td>Heavily depends on External Resources</td>
</tr>
<tr>
<td>Crop – Livestock Mixed System</td>
<td>Lacks integration</td>
</tr>
<tr>
<td>Kept in Large Number by Pastoralists</td>
<td>Small and Medium Herd Size</td>
</tr>
<tr>
<td>Local Indigenous Breeds, suited to local ecosystem</td>
<td>Exotic and Cross Breeds</td>
</tr>
<tr>
<td>Local Breeds are having greater disease resistance</td>
<td>High use of Antibiotics</td>
</tr>
<tr>
<td>Multiple products – Milk, Meat, Wool</td>
<td>Mainly for Milk production</td>
</tr>
</tbody>
</table>

Never heard of Suicides among pastoral communities
Conclusion

• The issue of AMR is not only technical, it has to be approached in a more holistic manner.

• Indigenous Breeds, more resilient, well adapted to local ecosystem, needs attention.

• Need Paradigm shift towards ecologically balanced production system from productivity maximization.

• Ecology, Economy and Equity framework needs to be evolved.

• Extensive livestock system should get policy support for sustainable food production.
Thank you

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