Innovative Approaches for Agri-Production, Entrepreneurship & Value Addition

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ICAR, New Delhi
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Production Technologies

A Farmer's Field, Distt. Jhabua, M.P.

NAU, Navsari

About the Technology……..ASMM

- If there is **imbalance** in mineral concentration either due to **deficiency or interaction**, the animal suffers from **poor health**, **fertility**, **immunity** and ultimately affecting production
- Source of minerals for animals: mineral content in feed and fodder and passively through intake of soil
- Mineral status in feed and fodder depends on the mineral availability in soil
- Mineral availability in soil varies depending upon **many factors ……**
- National Fellow project of ICAR was completed on "***Studies on Macro and Micro nutrients in relation to deficiencies/metabolic diseases and production in animals***"
- Based on these studies, **ASMM for UP and Uttrakhand** was developed and patented after almost a decade of research efforts

Walking tunnel

A Research Farm in China


Meerut

Bagging Mango Fruits on Tree

CISH, Lucknow

Processing & Value Addition

Why Processing?

- Improving hygiene in food chain
- Enhancing availability for longer duration / off-season
- Makes food available in non-traditional / production areas
- Creates business and employment

Wine & Ethanol

Wine from Jamun, Karonda and Pomegrenate (8-12%)



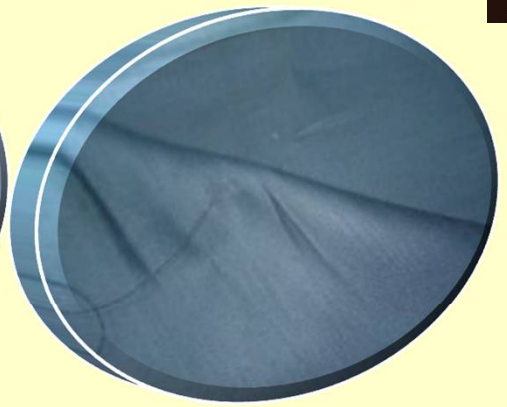



Litchi Wine
Production: 450,000 t
Yield: 11.5%




Sorghum
Ethanol: 1100 l / ha

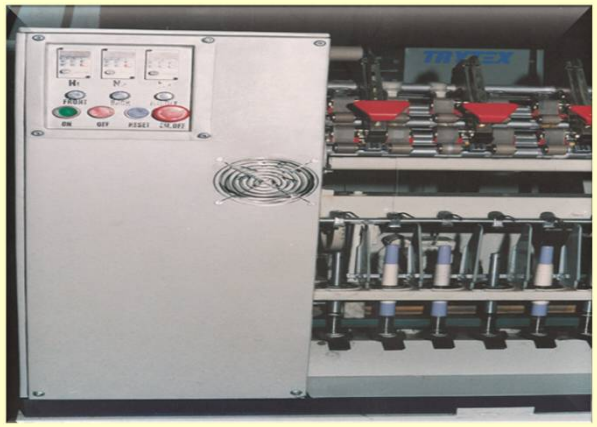

Banana fibre as fabric



Cotton

Village level ring frame

Micro processor based ring frame for yarn making in rural areas



Axial flow cotton pre-cleaner

Axial flow pre-cleaner for seed cotton for use in the production catchment

Tamarind Processing Introduced in Bastar Area

Current business:
Middlemen- Low profit

Impact

BRGF (Backward Regions Grant Fund) sanctioned Rs 14.5 Lac for further value addition in form of candy, sauce, etc.

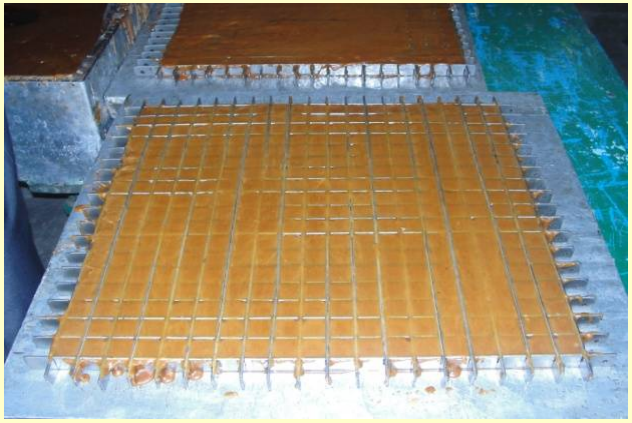
(IGKV, Raipur)

Group procurement, processing & marketing- increased profit

180 Families could earn Rs 10-12 thousand (50% higher than before intervention)

Whey Jaljeera Drink

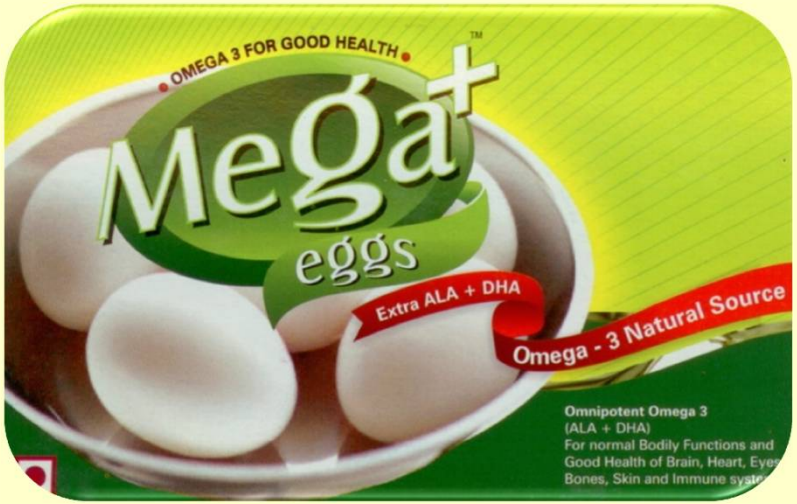
- Manufactured by mixing whey, sugar, salt, spices, condiments and minor ingredients and then processing to make the product safe and stable at room temperature: shelf-life, not less than 3 months.
- Ideal refreshing drink with thirst-quenching ability; helps in better rehydration of body.
- Possesses natural ingredients that impart a unique flavour



IISR, Lucknow

Omega -3 Fortified Value Added Products

- Omega 3 Enriched Feed Mix (EFM) formulated from linseed cake.
- Lab trials conducted on 400 poultry birds.
- Regular feed given up to 21 days and from 22 to 42 days EFM fed along with regular feed.
- Trials show that EFM is better for bird's health and eventually for human health.
- Better taste.



(BVU, Maharashtra)

Coffee from *Prosopis juliflora*

Prosopis – 70%
Raw Coffee – 20%
Chicory – 10%

Safe for human use consumption – NIN Certified

CAZRI, Jodhpur

Agro forestry goes industrial

Briquetting technology of plantation and match wood industrial residues

TNAU, Coimbatore

Factors Influencing Commercial Viability of Fruits and Vegetables Enterprise

Identification of high production catchments, popular and processeable varieties grown in the area, processed products available in market (their package size, cost, firm, plant location etc.), storable characters of crop produce, availability of warehouses nearby, identify plant and machinery / processing lines required for making the desired product(s), commercially viable plant size, use of the pilot plant for other fruits and vegetables grown in the area for processing in lean season. Besides these, all economic consideration such as initial investment, cost of raw material, processing cost, overheads, interest, depreciation, profits, marketing etc. will have to be considered.

Technical Analysis of Fruits & Vegetables Processing–The Main Factors Influencing the Decisions

1. Detail & exhaustive analysis of the availability of the fruits & vegetables near the processing facilities. This also includes the seasonal nature, perishability of raw material and need to process them in large quantity at one time.
2. Working out the diversification and other options to utilize the facilities in lean season.
3. To increase the shelf life of the product, attractive packaging, proper pricing so that consumers get the finished product at almost same price through out the year minimization of waste and proper disposal of garbage.

Technical Analysis of Fruits & Vegetables Processing–The Main Factors Influencing the Decisions

4. Excellent infrastructure facilities.
5. Availability of skilled manpower, quality and quantity of water.
6. Promotion of farmers for growing required raw materials to meet the specifications.
7. Provision for supply of raw materials incase of failure of crop.

Plant Size Selection

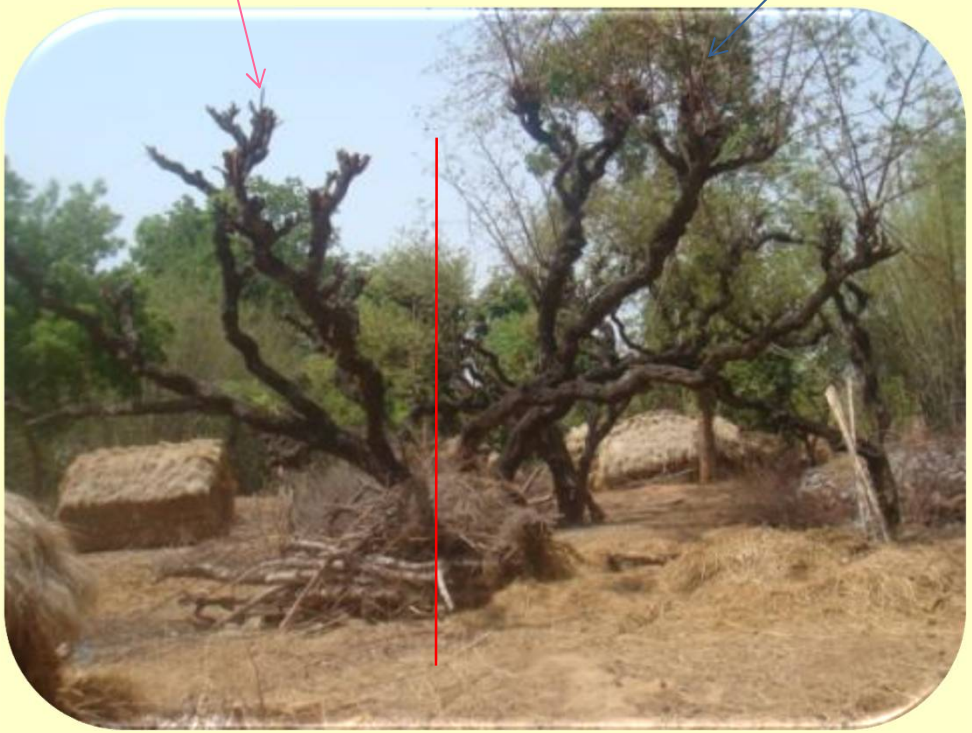
1. Project cost corresponding to various sizes and financial resources of the promoters.
2. The minimum economically viable plant size offered by supplier.
3. The popular plant size of the existing producers.
4. Comparative capital cost of major plant sizes.
5. Market size and future growth potential for finished fruits and vegetables products.
6. Tax benefits offered by Govt., if any.
7. The cost of future expansion with minimum investment and maximum utilization of existing facilities of fruits and vegetables processing.

Selection of Machinery Suppliers

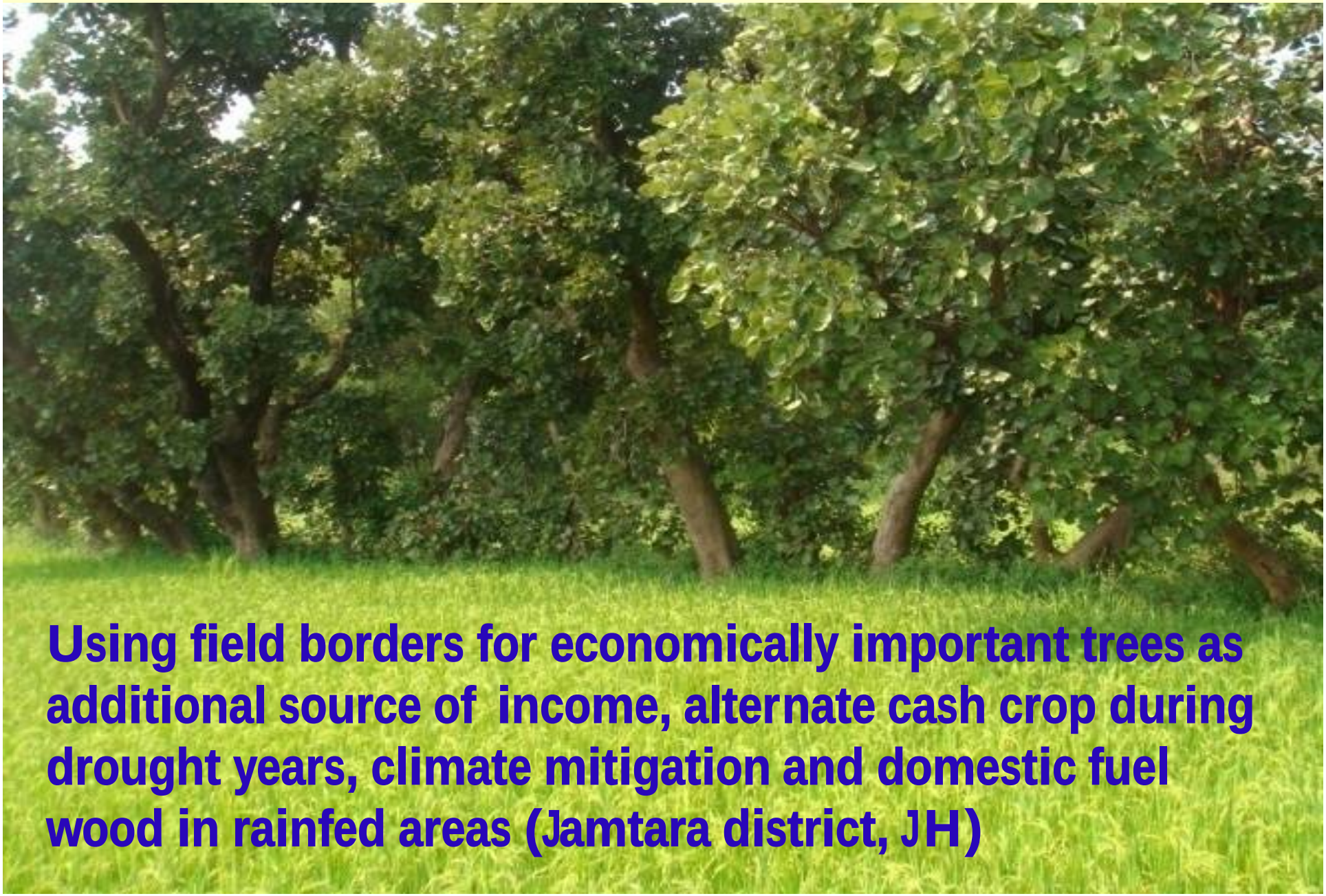
1. Technical features of equipment offered by individual suppliers.
2. Reliability of the equipment.
3. Price of equipment.
4. Delivery period and the reputation in terms of delivery schedule by the individual supplier.
5. Nature of warranty or performance guarantee offered by the supplier.
6. Scope of after sales service, terms and conditions of the service and reliability of the service offered by individual suppliers.

A productive ber tree in Putidih village of Jhalda- 3 years before

Same ber trees after partition between two families One half pruned other not



Lac cultivation on Palas trees



Using field borders for economically important trees as additional source of income, alternate cash crop during drought years, climate mitigation and domestic fuel wood in rainfed areas (Jamtara district, JH)

Sharing of Groundwater through Pipeline Networking and Social Mobilization – Rangareddy, AP

- 7 Bore wells; 18 farmers; 45 acres of land.
- Kharif: 3 protective irrigations; 45 acres
- Rabi: 2 acres groundnut - donor farmers; 1 acre groundnut - recipient farmers;
- Paddy cultivation only during kharif; restricted to 5 acres.

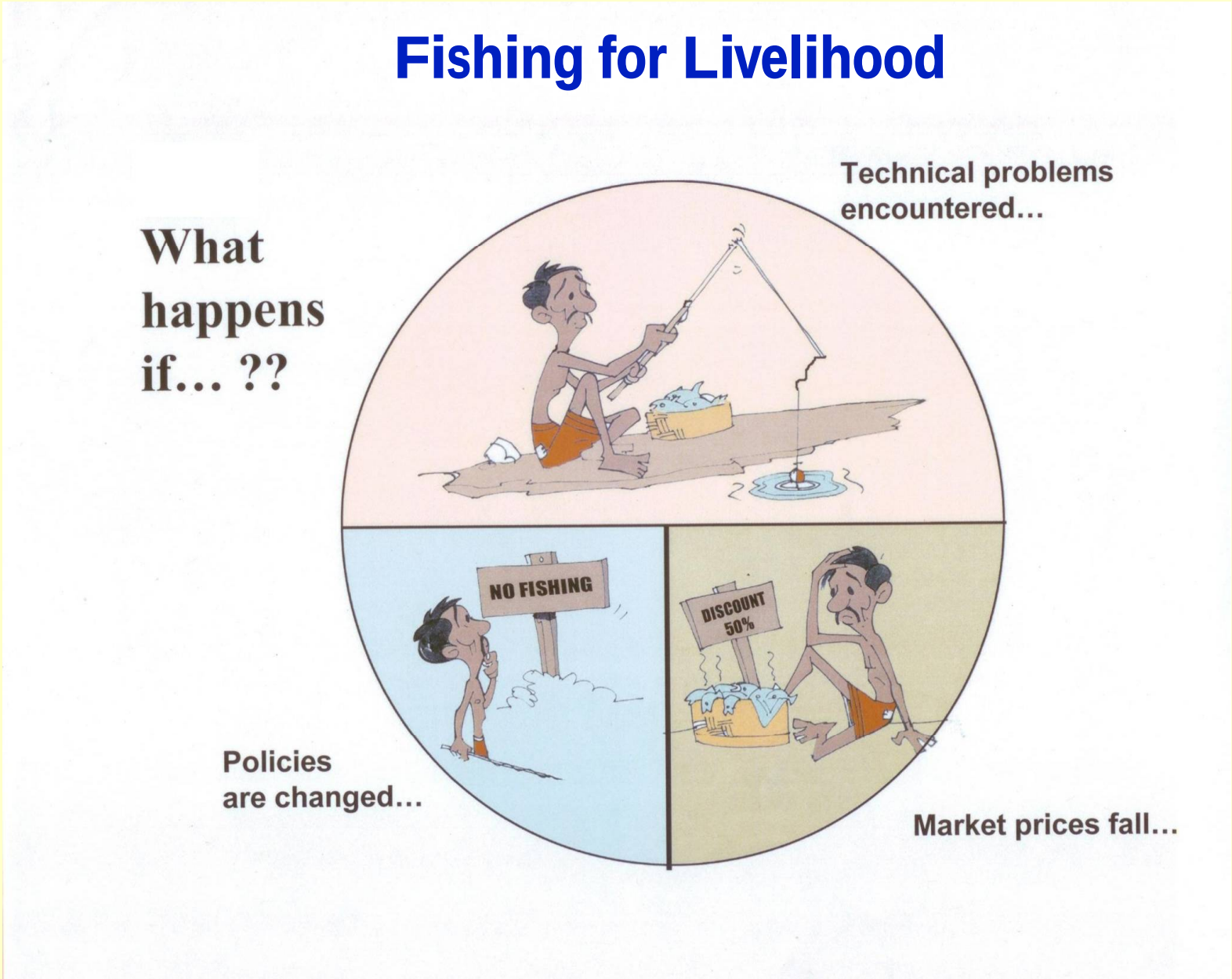
(CRIDA, Hyderabad)

Redgram Transplanting Technology

UAS, DHARWAD

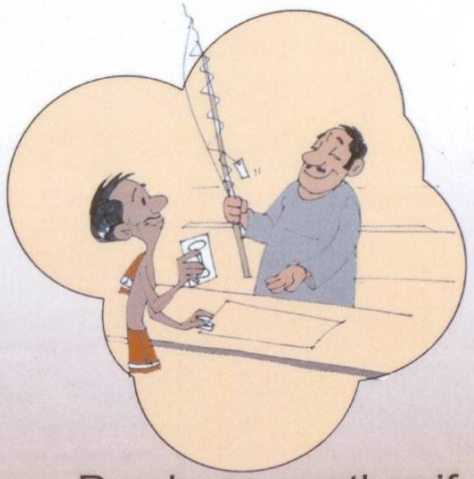
Understanding Agricultural Innovation – An Example

Fishing for Livelihood



Technical problems are encountered…

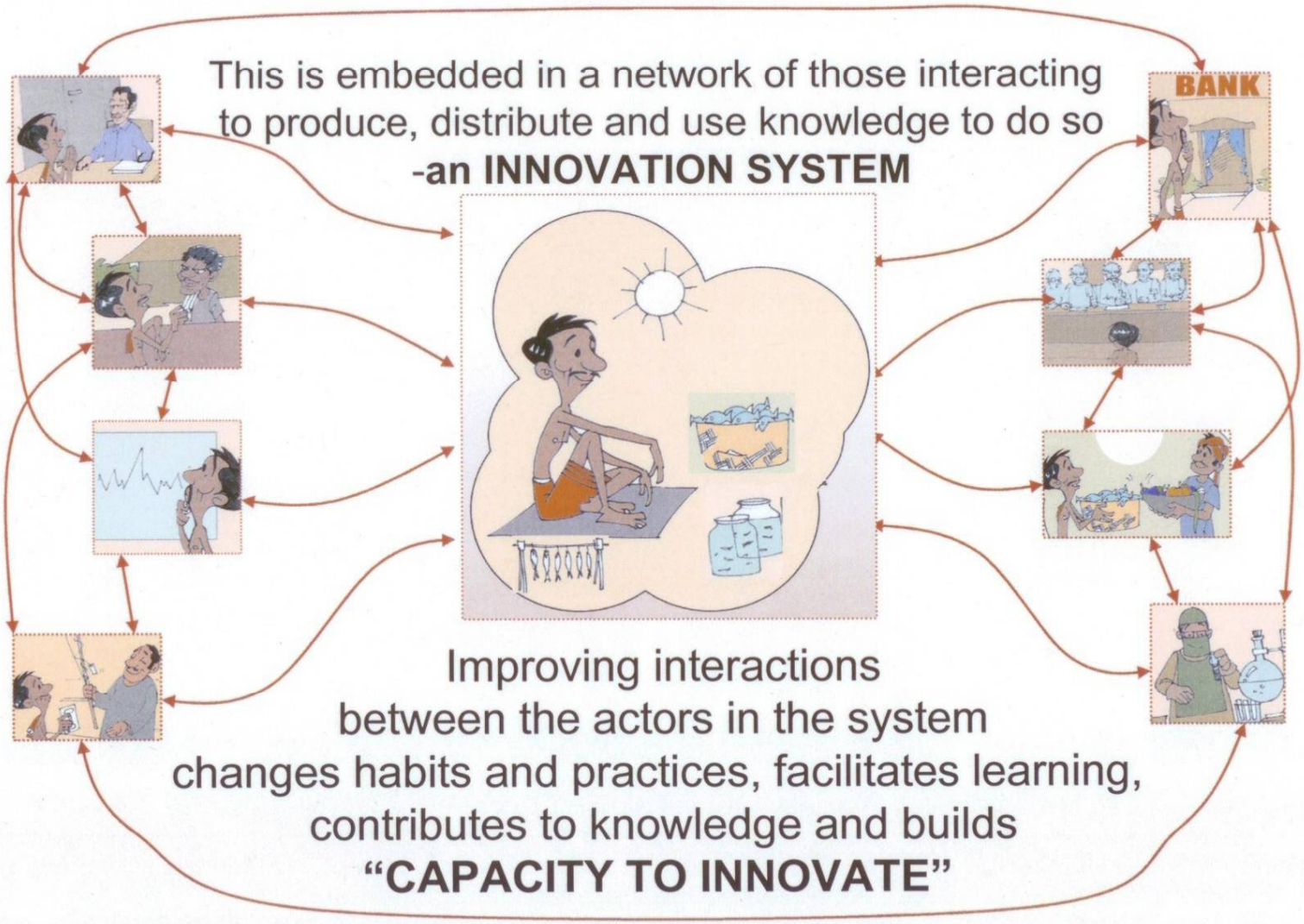
Fix it if materials are available



Purchase another if capital is available

Learn new ways if training is available

Using something old in new ways, or applying something new to successfully produce desired social and economic outcome is INNOVATION



Thanks....