



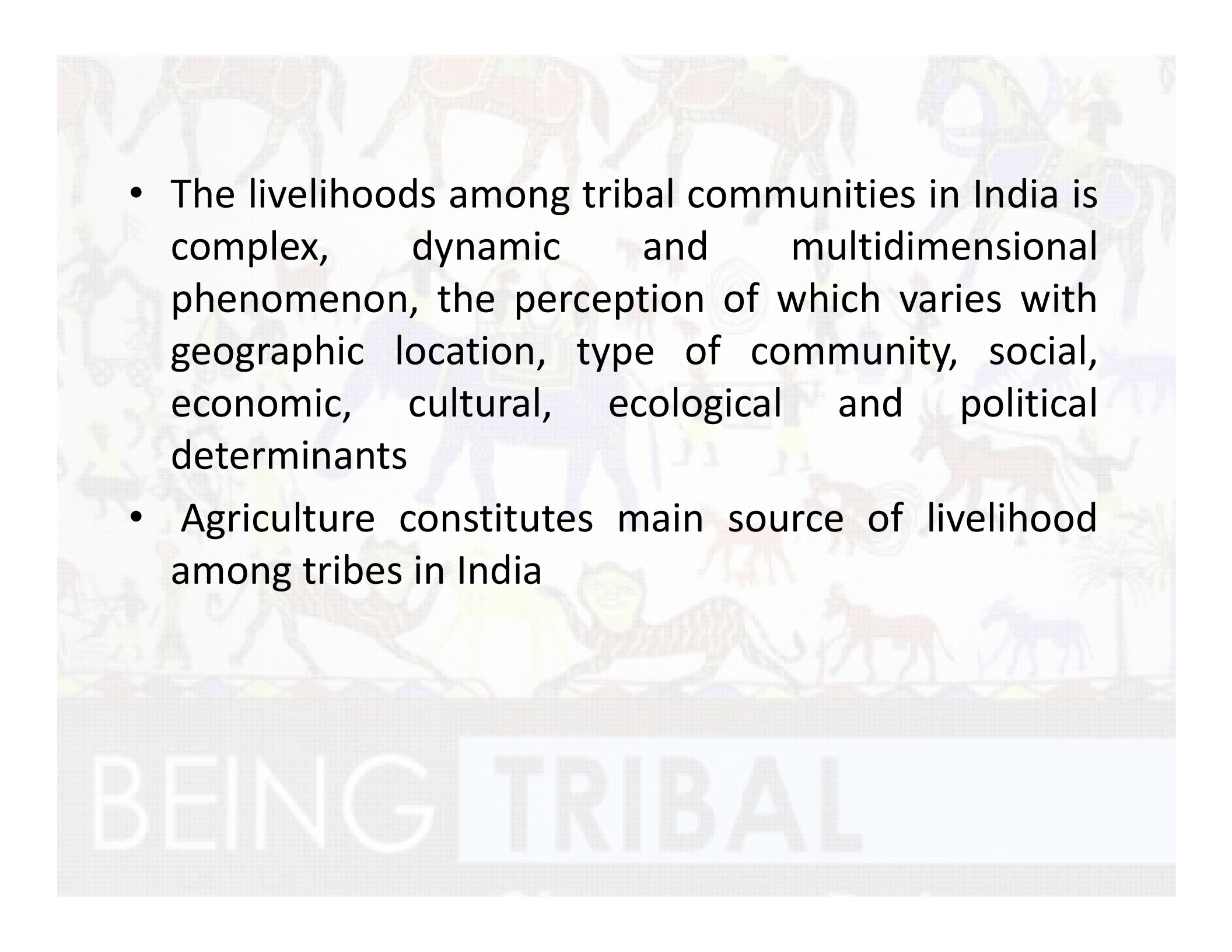
Tribal Livelihood, Innovative Practices and Government Initiatives

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Tribal Livelihood, Innovative Practices

- The simple meaning of livelihood is that it is a means of securing the necessities of life.
- Conceptually “livelihood” connotes the means, activities, entitlements and assets by which people make a living, attempt to meet their various consumption and economic necessities, cope with uncertainties and respond to new opportunities.
- “Livelihood is never just a matter of finding or making shelter, transacting money, getting food to put on the family table or to exchange on the market place.
- It is equally a matter of ownership and circulation of information, the management of skills and relationships, and the affirmation of personal identity”.

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- The background of the slide features a colorful, stylized illustration of tribal life in India. It depicts various scenes: a person riding a horse, a person on a bull, a person on a tiger, and a person on a lion. There are also depictions of a person on a horse, a person on a bull, and a person on a tiger. The illustration is composed of various shapes and colors, including brown, yellow, blue, and red. The overall style is reminiscent of traditional Indian folk art or tribal motifs.
- The livelihoods among tribal communities in India is complex, dynamic and multidimensional phenomenon, the perception of which varies with geographic location, type of community, social, economic, cultural, ecological and political determinants
 - Agriculture constitutes main source of livelihood among tribes in India

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- **Forests provide a wide spectrum of livelihoods**
- for tribal communities in the form of direct employment, self-employment and secondary employment.
- The self employment in forestry create local people's livelihoods through **the sale of fuel wood and fodder, grazing, lopping and grass cutting, forest based handicrafts and cottage industries, sericulture, lac cultivation, bee keeping, charcoal burning, leaf plate making, liquor making, rope making and basketry, medicines, collection, processing and marketing of Non-Timber Forest Products (NTFPs),** cultivation of agricultural crops under agri-silvicultural practices, livestock rearing, social and farm forestry and availing of rights and concessions.

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- The forests resources are used by the tribal communities to meet their daily livelihood needs in terms of
- fuel wood, charcoal and kindling, fodder and browse, mulch and compost, construction timber, shelter, housing and fencing materials, poles, utensils, ornamental and decorative materials, musical instruments, agricultural implements, carving woods, furniture, fibre, medicines, twig brushes, dyes, thatch, brushes and brooms, foods (mushrooms, vegetables, fruits, kernels, nuts, tubers, flowers, spices, jams, beverages, eggs, birds, insects, fishes, honey etc.), cloth, religious and aesthetic goods, animal products and abiotic materials.
- The forests also satisfy their social, economic, cultural, religious, ethical, traditional, spiritual, ecological and political aspirations.

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The Agricultural Practices by Tribal Communities

- The agricultural practices by tribal communities per se can be broadly divided into three categories based on adoption of agricultural practices which again depends on the exposure to technology, market forces and natural resources at their command etc.
 - a. Primitive Agriculture and practice of shifting cultivation**
 - b. Assimilated tribal communities and adoption of modern practices**
 - c. Agriculture near urban agglomerates and vegetable centric agriculture**

Primitive Agriculture and Practice of Shifting Cultivation

- Agriculture in tribal areas is very diverse. In places like north eastern region as well as part of Andhra Pradesh, Odisha etc., *jhum* cultivation is practiced. *Jhum* also known as the slash and burn agriculture, is a method of cultivation where forest vegetation is cleared by burning and put into cultivation for 3-4 years and again shift to new areas.

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Assimilated Tribal Communities and Adoption of Modern Practices

- Various States have initiated extension schemes under GOI (ATMA) and State Government.
- funded projects for popularizing the modern agriculture practices. Some of such initiatives include:
 - **Subsidies for seeds/ fertilizer and opening of dealerships in far flung areas;**
 - **Promotion of line sowing;**
 - **Subsidies under farm mechanization;**
 - **High incentives of agro processing and post-harvest equipment;**
 - **Credit promotion through PACS and LAMPS.**

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Agriculture near Urban Agglomerates and Vegetable Centric Agriculture

- The influence of market decides the cropping patterns near the urban agglomerates. The vegetable growing is popular across the country near to the cities and towns and tribal agriculture is no different. Proximity to city also helps them in accessing the inputs, availing of training and extension support and also they can have advantage of better market intelligence.

Animal husbandry based innovative Tribal Livelihood and best practices

- Livestock are domesticated animals raised in an agricultural setting to produce commodities such as food, fiber, and labor.
- Animal Husbandry is an integral part of agriculture, making a significant contribution to the rural economy and socio-economic development in many developing countries. Livestock is also linked closely with the local culture and traditions, which are being followed ever since the domestication of livestock for economic benefits.

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Art and Craft based Tribal Livelihood

- Making handicrafts is one of the important occupations of the tribal communities. Traditionally it is related with nature and environment. The tribal handicrafts are specialized skills which are passed on from one generation to another and these handicrafts are means of livelihoods of artisans. This art is a gift for tribal society given by nature
- Handicrafts are mostly defined as “ Items made by hand ,often with the use of simple tools, and are generally artistic and or traditional in nature They are also objects of utility and objects of decorations”.

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- The tribal handicrafts are specialized skills which are passed on from one generation to another and these handicrafts are means of livelihood of the artisans.

Art of Weaving: -The art of weaving includes design on cloths and to making fishing nets. Many articles are made with the help of reeds of bamboo which includes basket, cage ,Tarfa, pungu pawari flute and various types of musical instruments. These skills are customary and have been developed by the tribal community.

Skill of Clay Works: - The tribal community has developed and preserved the skills of making the baskets and clay tiles used as roofing material of houses. Bricks and the domestic articles and objects which are useful for the family and such types of skill are customary and preserved in the tribal community.

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- Wood Carving :-wood carvings are important handicrafts observed in Nandurbar district due to the availability of wood as raw materials from nearby forest areas . Wood craft is the most famous beautiful and unique art of wooden carving of tribal society. These wooden craft includes models, furniture items etc . among the furniture items Deewan (cot with box) is very famous, and attractive since it involves the art of carving with different pictures of tribal culture and other designs of interest.



Go Tribal campaign to promote tribal arts, crafts in global markets

- A new campaign by the Ministry of Tribal Affairs was launched to create awareness and promote tribal arts and crafts, as well as aid in socio-economic welfare of over 700 Indian tribes across the country.
- It was organised by the Tribal Cooperative Marketing Development Federation of India (TRIFED), the "Go Tribal" campaign's objective was to promote and make available tribal handcrafted textiles, jewellery, and other accessories through global online market spaces.
- Tribes India and Amazon websites will showcase an array of product range under the campaign.

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Wadi: A model for sustainable tribal livelihood

- The National Bank for Agriculture and Rural Development (NABARD) has been supporting various welfare projects for Scheduled Tribes in the country under its Tribal Development Fund. The Wadi project is one such integrated tribal development initiative of NABARD.
- Under the project a Wadi plot usually covers one acre per beneficiary who must be a marginal farmer not having more than 5 acres of land.
- The main features of a Wadi model are economic upliftment of the farmers through sustainable agriculture, social empowerment, improvement in quality of life including health and women empowerment in tribal dominated areas of the country.

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- The main measures taken in a Wadi model were also implemented under the NABARD project in Dasmantpur block:

- ***Water and Soil***
- ***Fencing***
- ***intercropping***
- ***Organic Farming***
- ***Local community building***



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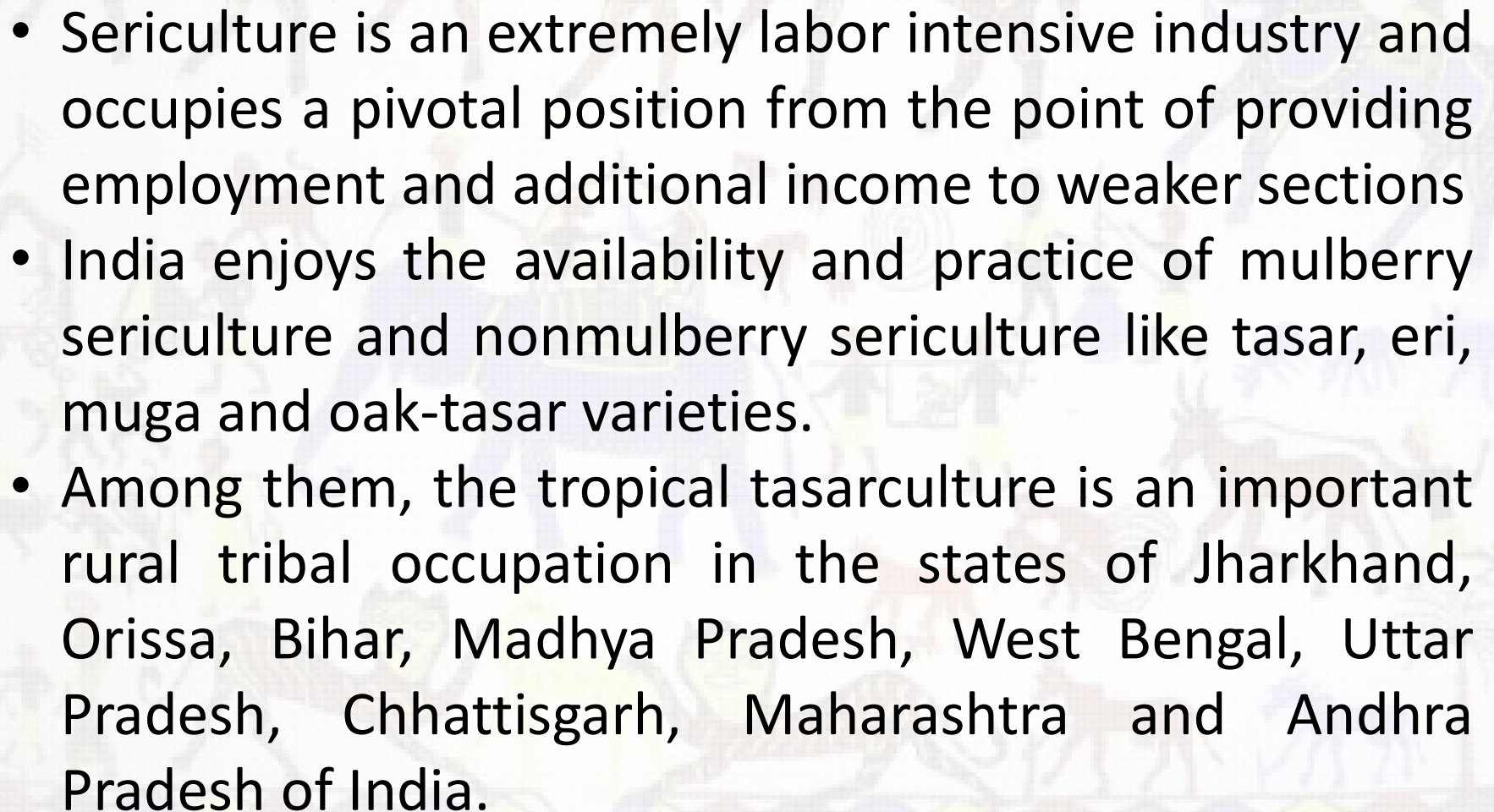
Sericulture



- **Sericulture is one of the primary occupations for livelihood of poor people in tribal area.**
- Most of tribal are involved in Sericulture. **Tasar, Eri are the main forest based cultivation.**
- Among these Tasar Culture is the major crop adopted by the tribals and practiced in respective areas.
- Out of the 6, 38,588 villages in India, sericulture are practiced in about 69000 villages providing employment to about 8.25 million people.
- **Sericulture is providing livelihood for 9, 47,631 families.**
- The tropical tasarculture in India involve two and half lakh aboriginal families to produce vanya (tasar) silk by growing wild silk-insect as their cultural heritage and livelihood. India continues to be the secondlargest producer of silk in the World.

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- Sericulture is an extremely labor intensive industry and occupies a pivotal position from the point of providing employment and additional income to weaker sections
 - India enjoys the availability and practice of mulberry sericulture and nonmulberry sericulture like tasar, eri, muga and oak-tasar varieties.
 - Among them, the tropical tasarculture is an important rural tribal occupation in the states of Jharkhand, Orissa, Bihar, Madhya Pradesh, West Bengal, Uttar Pradesh, Chhattisgarh, Maharashtra and Andhra Pradesh of India.

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- The tropical tasar silkworm, *Antheraea mylitta* Drury (Lepidoptera: Saturniidae) is a polyphagous insect exists as ecotypes and feeds primarily on nature grown *Terminalia tomentosa* W&A(Asan), *Terminalia arjuna* Roxb.(Arjun) and *Shorea robusta* Geartn. (Sal), apart from many other secondary and tertiary food plants.
 - The tasar silk industry has acquired a big role in improving tribal socioeconomic condition besides generating substantial rural employment

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Pisciculture

- Fish cultivating or pisciculture includes bringing fish commercially up in tanks or ponds, mainly for food.
- It is the foremost type of aquaculture; while different other strategies may fall under mariculture. Around the world, the most extensively used fish species for fish Farming are carp, tilapia, salmon, and catfish.



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Measures to Promote Livestock Sector

- Increasing commercialization of livestock products by improving technologies, increasing market connectivity, processing and storage centre, training etc.
- Making provision for adequate availability of quality fodder.
- Targeting a significant portion of cultivable land for growing fodder crops.
- By setting up a consortium with National Bank for Agriculture and Rural Development (NABARD) and National Centre for Disease Control (NCDC) to fund the dairy cooperatives.
- Keeping a disaster management fund for livestock in case of natural calamities.
- Cross breeding of indigenous species with exotic stocks to enhance genetic potential of different species.
- Encouraging Public-Private Partnership for sustainable livestock rearing.

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Few Important Initiatives by the Government

The Government of India has taken several initiatives for the overall growth and development of animal husbandry and dairy sector in the country.


As Agriculture, including Animal Husbandry, Dairying and Fisheries is a State subject; the emphasis of the Department of Animal Husbandry, Dairying and Fisheries, GOI has been on supplementing efforts of the State Governments in development of these sectors.

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National Livestock Policy

- The National Livestock Policy, 2013 was notified on 18 April 2013 in order to have a policy framework for improving productivity of livestock sector in a sustainable manner, while protecting and preserving the environment, animal biodiversity and livelihood of farmers.
- **Some of the objectives of policy** are as under:
 - i) Support R&D initiatives for improving production, productivity, bio-security and profitability, disseminating technologies etc.
 - ii) Improving existing low input production system by enhancing productivity and income and improve socio-economic status of small and marginal livestock producers/ farmers/ women livestock producers etc.

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1. National Programme for Dairy Development (NPDD) : The NPDD focuses on creating/ strengthening of infrastructure for Production of quality milk, Procurement, Processing and Marketing of Milk & Milk Products by the State Implementing Agency (SIA) i.e. State Cooperative Dairy Federations/ District Cooperative Milk Producers' Union.

2. National Livestock Mission : In order to boost the growth of the livestock sector, the National Livestock Mission (NLM) has been launched during Twelfth Five Year Plan, with the main objective of achieving sustainable development of the sector by providing greater flexibility to states in formulating and implementing the schemes as per the local needs for benefit of the farmers.

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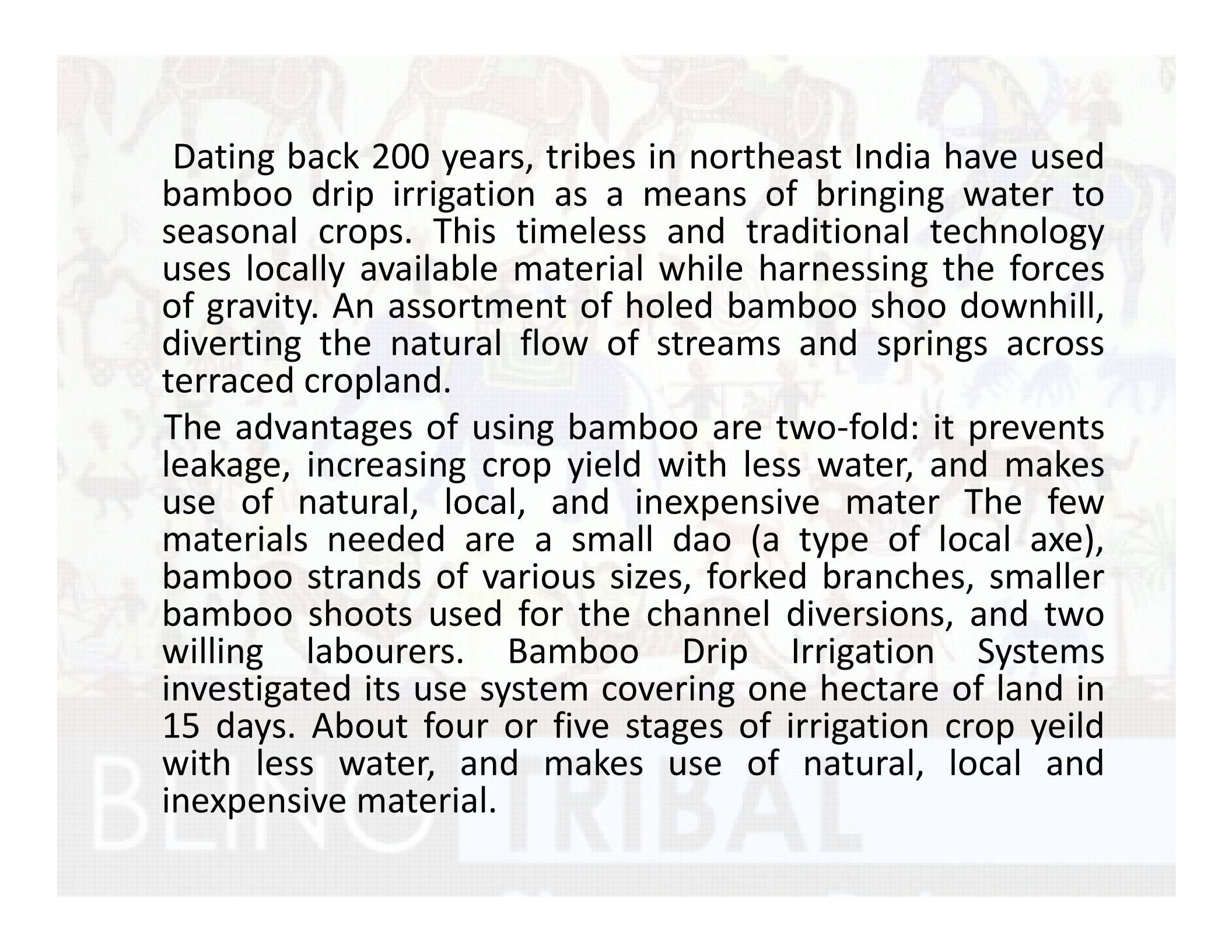
Some Initiatives :

Micro-irrigation system (Drip-irrigation and Sprinkler Irrigation) for tribal livelihood

1. “Bamboo Drip irrigation system in North-East states:



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Dating back 200 years, tribes in northeast India have used bamboo drip irrigation as a means of bringing water to seasonal crops. This timeless and traditional technology uses locally available material while harnessing the forces of gravity. An assortment of holed bamboo shoo downhill, diverting the natural flow of streams and springs across terraced cropland.

The advantages of using bamboo are two-fold: it prevents leakage, increasing crop yield with less water, and makes use of natural, local, and inexpensive mater The few materials needed are a small dao (a type of local axe), bamboo strands of various sizes, forked branches, smaller bamboo shoots used for the channel diversions, and two willing labourers. Bamboo Drip Irrigation Systems investigated its use system covering one hectare of land in 15 days. About four or five stages of irrigation crop yeild with less water, and makes use of natural, local and inexpensive material.

2. Micro-irrigation system in tribal areas of Navapur, Maharashtra

- The water use efficiency is very low under conventional flood method of irrigation due to substantial conveyance and distribution losses. Though the region gets about 1194 mm rain during monsoons, a major part is wasted as runoff and thus scarcity occurs during the dry season. Hence the drip and sprinkler irrigation systems are demonstrated to the tribal farmers

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Other innovative practices in Maharashtra

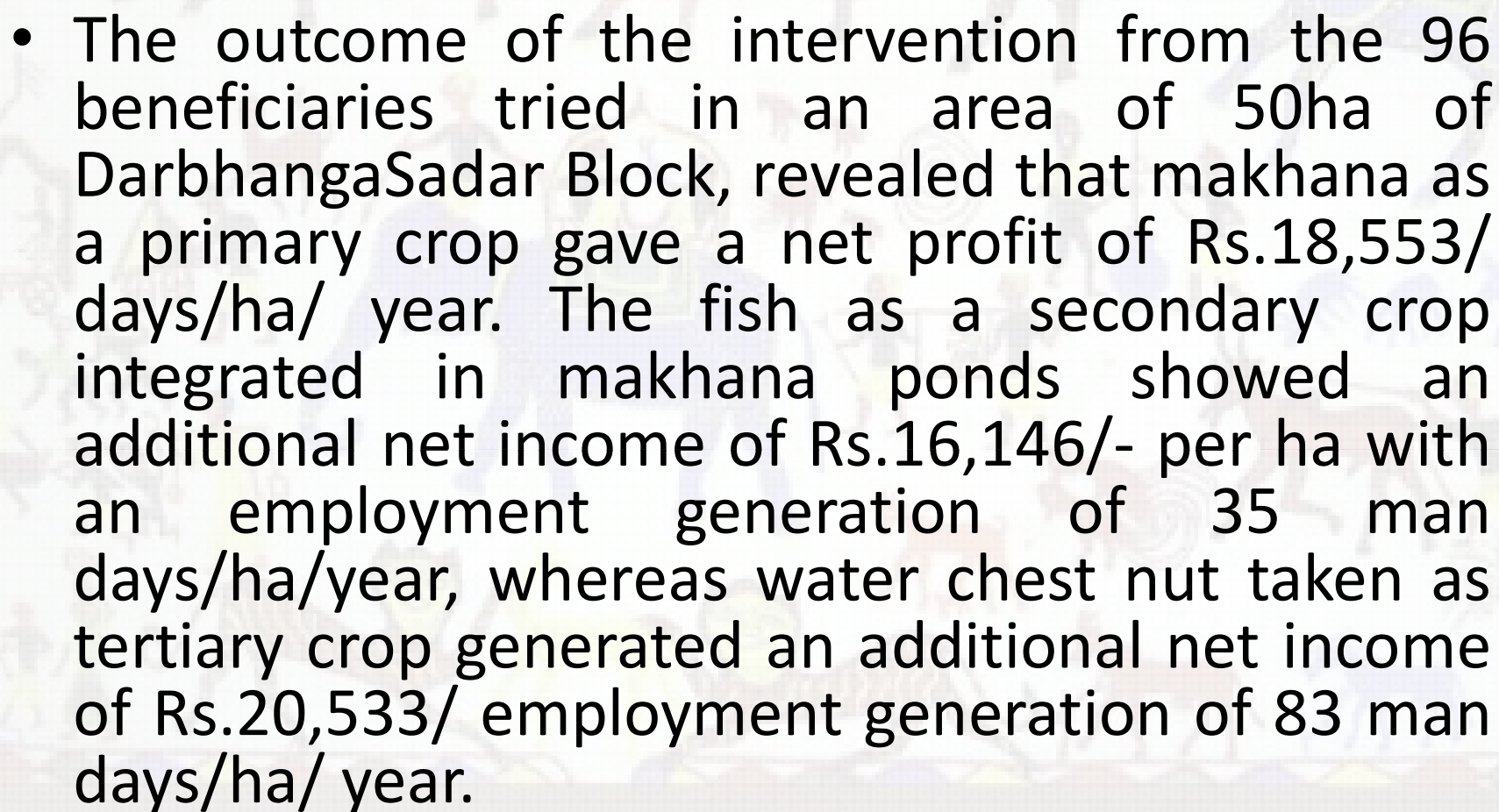
1. Beekeeping in Nandurbar region, Maharashtra
2. Mango production technology in Navapur tehsil, Maharashtra
3. Sugarcane production technology in Navapur tehsil, Maharashtra
4. Paddy cultivation and post-harvest technology in Nandurbar district, Maharashtra
5. Chilli production and its marketing in Navapur tehsil, Maharashtra
6. Groundnut farming in Jintur tehsil, Maharashtra

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3. Integrated fish-makhana- water chestnut farming system in Darbhanga , Bihar

- Multiple uses of water attempted through integrating makhana with fish and water chestnut as a concurrent crop. The integration of fish and water chestnut (*Trapa bispinosa* Natans) with makhana (*Euryale ferox* Salisb) exhibited fish yield of 0.18 to 0.4 tonnes/ ha and makhana seed yield of 1.2.06 tonnes/ha and water chestnut yield of 3.08 to 8.8 tonnes/ha.

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- The outcome of the intervention from the 96 beneficiaries tried in an area of 50ha of DarbhangaSadar Block, revealed that makhana as a primary crop gave a net profit of Rs.18,553/ days/ha/ year. The fish as a secondary crop integrated in makhana ponds showed an additional net income of Rs.16,146/- per ha with an employment generation of 35 man days/ha/year, whereas water chest nut taken as tertiary crop generated an additional net income of Rs.20,533/ employment generation of 83 man days/ha/ year.

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4. The integrated rice-fish-poultry farming system in Villupuram, Cuddalore and Nagapattinam, Tamil Nadu

In this approach fish culture was taken up in trenches running along the border of rice fields. Broiler birds, 1 bird/10m² of rice area, were housed in coop installed in fields so that the chicken droppings fall into the rice field. This enables poultry waste to serve both as rice manure and fish feed



5. The integrated rice-fish-vegetable system in Assam

- Introduced HYV of paddy like Ranjit, Gitesh, Jalashree and Jalkuwari. Aquaculture was added in existing rice crop. Vegetables like French bean, chilli and knolkhol were grown after rice harvest to utilize residual moisture and soil nutrients added by aquaculture activities. Achieved paddy yield of 2.58t (additional 0.9t); fish 40-42 kg and vegetables 3.9t. Net income per HH/year generated was Rs.42,983/- (from 0.28 ha; previous income was Rs.11,144/-).

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6. Land shaping in salt-affected coastal areas of Sundarbans, West Bengal

Initiated the 'land shaping' (farm pond, ridge & furrow and broad bed furrow, etc.) intervention under Global Environment Facility (GEF) in the salt-affected coastal areas of Sundarbans, Canning Town, West Bengal. Earlier the land was mono-cropped and only traditional rice varieties were grown in Kharif. After the harvest of rice in December the land was fallow till transplanting of next paddy crop in June–July. With the intervention farm-pond technology the farmers are practicing integrated farming system (crop-vegetable-fish). In addition to rice crop, fishes like carps and prawns are reared in the farm pond and in the low-lying rice field. Vegetables are grown throughout the year on the raised land and high ridges created by land shaping and irrigated with rainwater harvested in farm pond

7. Protected Cultivation at Lohaghat, Uttarakhand

- Designs of ventilated greenhouse developed. IPM for cucumber and tomato for greenhouse cultivation developed and validated. Production technology of cucumber, tomato and coloured capsicum standardized for zero energy ventilated greenhouse condition



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8. Commercially viable products of millets in Dharwad, Karnataka

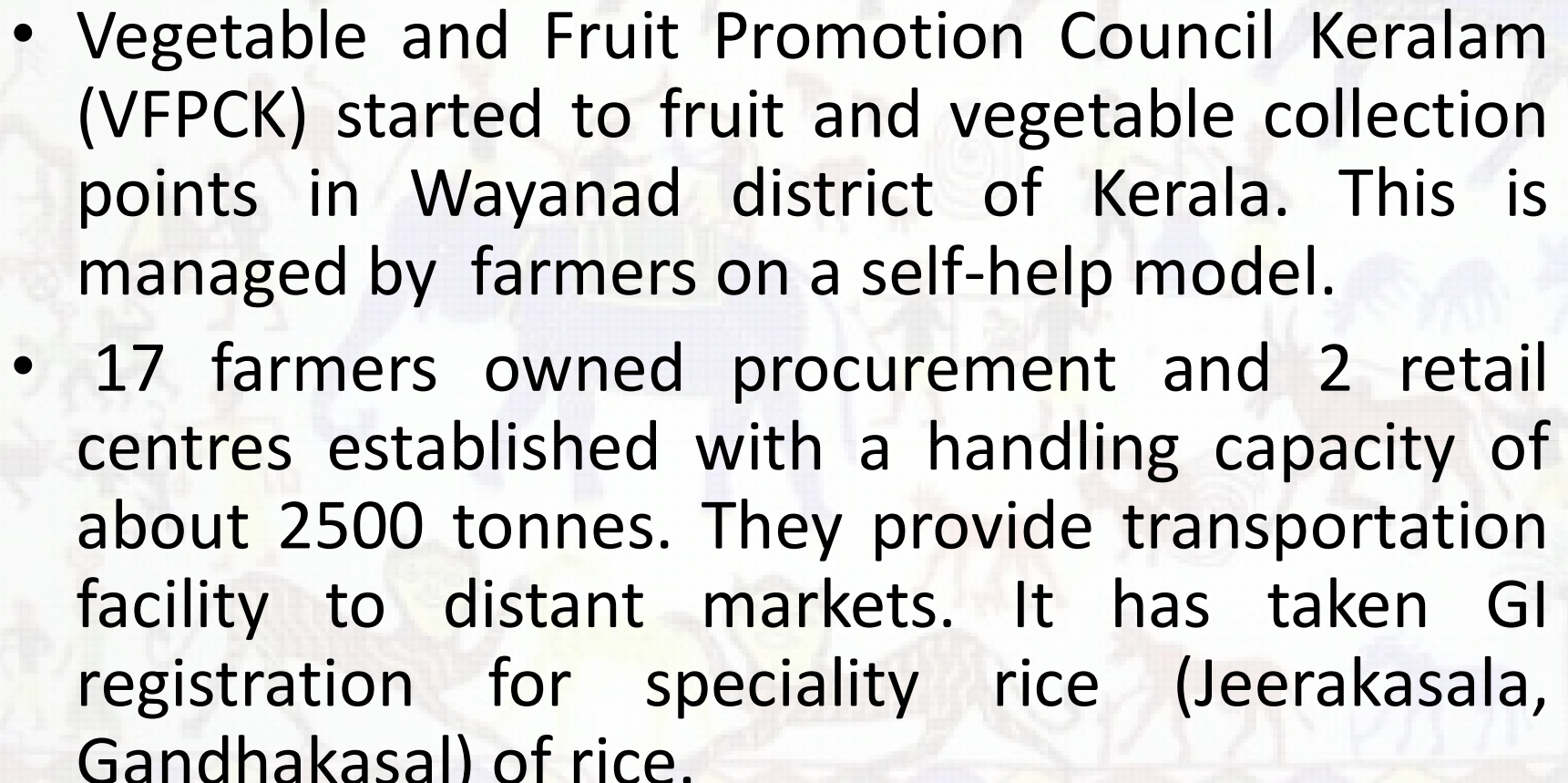
- Collected 1000 landraces of foxtail and little millet, analysed nutrition, nutraceutical, functional and sensory characteristics based on the colour and size of the grains. Increased Little millet production from 1-2 acres to 2-4 acres by 200 farmers. Mille processing units having dehulling, destining, polishing, flaking machines established in 2 districts. Developed five commercially viable ready to eat foxtail and little millet products, viz. diabetic mix, khakara, cookies, flakes and sports food. Ready to cook instant foods viz. millet vermicelli, composite mix for rava idli mix standardized

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9. Collection and marketing of farm produce in Kerala



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- Vegetable and Fruit Promotion Council Keralam (VFPC) started to fruit and vegetable collection points in Wayanad district of Kerala. This is managed by farmers on a self-help model.
 - 17 farmers owned procurement and 2 retail centres established with a handling capacity of about 2500 tonnes. They provide transportation facility to distant markets. It has taken GI registration for speciality rice (Jeerakasala, Gandhakasal) of rice.

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Thank you

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