# Proceedings of the Virtual Congress on

# Celebrating Women's Contributions to Safeguarding and Strengthening Ecological Security

6 June 2009
Rajiv Gandhi National Institute for Youth Development,
Sriperumbudur, Chennai, Tamil Nadu.


Jamsetji Tata National Virtual Academy (NVA)
M.S. Swaminathan Research Foundation, Chennai

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# Celebrating Women's Contributions to Safeguarding and Strengthening Ecological Security

Held on 6 June 2009
at the Rajiv Gandhi National Institute for Youth Development
Sriperumbudur, Chennai, Tamil Nadu
during the First Indian Youth Science Congress

Jamsetji Tata National Virtual Academy (NVA)
M S Swaminathan Research Foundation, Chennai

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# Introduction

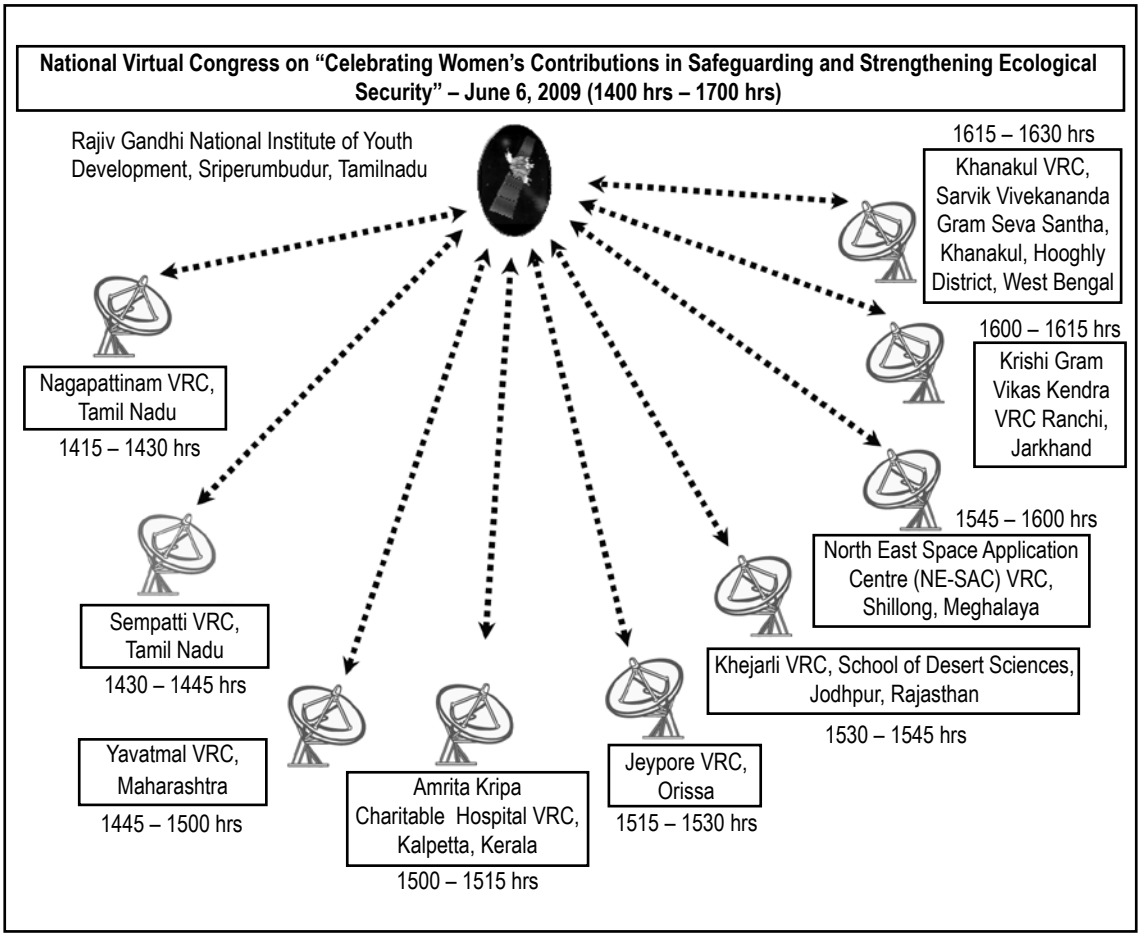
Since 1992, MSSRF has been implementing Village Resource Centres (VRCs) and Village Knowledge Centres (VKCs). Generally, the Village Resource Centre is located at block, commune or mandal level or at the centre of a cluster of villages. In 2003, the VRC and VKC programmes were strengthened with the creation of the Jamsetji Tata National Virtual Academy (NVA) and the ISRO-VRC programme, which involve collaboration with national and international partners for developing content and capacity building structures to promote sustainable rural development. VRCs are connected to one another through ISRO's uplink and downlink satellite facilities, whereby users located at one node of this network can fully interact with those located at another node through video and audio links.

NVA regularly organises virtual congresses and virtual interactions between policy makers, experts and rural communities to deal with different common issues and bridge the prevailing gap between scientific 'know how' and field-level 'do how'. During the sesions of the First Indian Youth Science Congress, a national Virtual Congress on *Celebrating Women's Contributions to Safeguarding and Strengthening Ecological Security* was organised. In this Virtual Congress, women participants from Tamil Nadu, Kerala, Maharashtra, Rajasthan, Jharkand, West Bengal, Sikkim and Orissa shared their views on the role of women in the conservation of marine biodiversity, drought- and salt-tolerant rice varieties, water, mangroves, millets, etc., and exchanged practical experiences in adopting new technologies (such as SRI), in promoting organic agriculture, in maintaining home gardens for nutritional security, in spreading scientific inputs to the tribal communities, etc. — all through the ISRO uplink / downlink satellite facility.

The First Indian Youth Science Congress was held from 5-7 June 2009 at the Rajiv Gandhi National Institute for Youth Development (RGNIYD), Sriperumbudur, under the joint auspices of MSSRF, SRM University and RGNIYD. It was attended by over 500 delegates from all parts of the country. The focal theme for the Congress was "Youth and Shaping the Future of Innovations in Science for Societal Needs". Parallel sessions discussed issues relating to biotechnology, climate change, biodiversity conservation, medical biotechnology, linking science and society, and entrepreneurship.

# The Virtual Congress

Around 50 women farmers, Self-Help Group (SHG) members and village leaders from 9 Village Resource Centres representing 8 states of the country participated in the Virtual Congress held on 6 June 2009. As has been explained earlier, they were all connected through the ISRO system to the hub at RGNIYD where the panel members, MSSRF scientists and facilitators, and a large audience of young scientists attending the Youth Science Congress were present. Each VRC was allotted 15 minutes to present case studies on the women farmers' work in safeguarding and strengthening ecological security. Some of the cases projected the multiple roles of women, while some of them came with specific needs addressed to policy makers, R&D institutions and researchers, socially-conscious young scientists, extension personnel and others.



## Nagapattinam Village Resource Centre, Tamil Nadu

**Participants:**
Ms. Mahesh
Ms. Jeyalakshmi
Ms. Ilavarasi Ramamoorthy
Ms. K. Senkani
Ms. Kalyani
Ms. Kalaivani Rajendran

**Moderator:**
Ms. S. Velvizhi, MSSRF

## Sempatti Village Resource Centre, Tamil Nadu

**Participants:**
Ms. Manjula
Ms. Chellammal
Ms. Jeyam
Ms. Latha
Ms. Susila
Ms. Tamilselvi
Ms. Selvi

**Moderator:**
Mr. R. Rajkumar, MSSRF

## Yavatmal Village Resource Centre, Maharashtra

**Participants:**
Ms. Karuna Vasantrao Futane
Ms. Anusaya
Ms. Bhimabai Narnware

**Moderator:**
Dr. Vishwanath M. Palled, MSSRF

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**Participants:**
Ms. Kalyani Palott
Ms. Devaki Alamoola
Ms. Ammini

Ms. Devaki
Ms. Rugumini Bhaskaran
Ms. Meenakshi
Ms. Rugmini
Ms. Kamala
Ms. Sarala
Ms. Elamma
Ms. Reena
Ms. Chinnamma
Ms. Shaharban
Ms. Vinodini

**Moderator:**
Mr. G. Girigan, MSSRF

## Jeypore Village Resource Centre, Orissa

**Participants:**
Ms. Chandrama Masiha
Ms. Manima Dalei
Ms. Chanchala Naik
Ms. Raimati Ghiuria

**Moderator:**
Dr. KUK. Nampoothiri, MSSRF

## Khejarli Village Resource Centre, Rajasthan

**Participants:**
Ms. Sayeeda Gafar Khan Ghori
Ms. Sundar Karnaram
Ms. Rahmat Iqbal
Ms. Suki Baburam
Ms. Dhayali Devi Sargara
Ms. Roopa Devi Meghwal

**Moderator:**
Mr. J. Srinath, MSSRF

## Shillong Village Resource Centre, Assam

**Participants:**
Ms. Jrop Sivon
Ms. Markynti
Ms. B.H. Syeim
Ms. Cidoris
Ms. Dwam Warjere

**Moderator:**
Mr. S. Surendran, MSSRF

## Krishi Gram Vikas Kendra Village Resource Centre, Jharkand

**Participants:**
Ms. Helena Tete
Ms. Vimla Pradhan
Ms. Fudo Devi

**Moderator:**
Ms. N. Ganga Vidya, MSSRF

## Khanakul Village Resource Centre, West Bengal

**Participants:**
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Ms. Namita Bhanja
Ms. Swarupa Samanta

**Moderator:**
Mr. Swarup Seth, Khanakul Village Resource Centre

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**Overall Coordinator:**
Mr. S. Senthilkumaran, MSSRF

# Nagapattinam Village Resource Centre, MSSRF, Tamil Nadu

Nagapattinam is a district located in the east coast of Tamil Nadu, identified as a disaster-prone area by the Indian Meteorological Department (IMD). It has often been ravaged by cyclones and floods and was severely affected by the December 2004 tsunami.

## Conservation of Marine Biodiversity


A fisherwoman from Akkaraipettai fishing village — one of the worst affected by the 2004 tsunami — **Mahesh** is an active member of the Fisherwomen's Cooperative Society formed by the Department of Fisheries to help fisherwomen get welfare schemes. She has been enthusiastic in creating awareness among the fisherfolk about the importance of marine biodiversity, sustainable fisheries and the need for conservation, through the VRC/VKC network and other local NGO networks.

In recent years, fish production has been rapidly declining because of overexploitation and habitat degradation. Bottom trawling, coral mining and pollution are the major reasons for the degradation of fish habitats. This has resulted in reduced fish catch, with the fisherfolk having to put in a great deal more effort to catch the same quantity of fish. As a result, their income has decreased substantially.

Mahesh called for ways and means to be evolved to enhance fish resources and alternative livelihoods.

## Conserving Drought- and Salt-tolerant Rice Varieties

Around 27 flood- and drought-resistant landraces of rice have been recorded in different agro-climatic zones all along the Nagapattinam coast, cultivated by small and marginal landholders. **Jeyalakshmi**, a woman farmer from Prathabaramapuram village, pointed out that the Nagapattinam farmers preferred to cultivate traditional salt-tolerant rice varieties like *Kuzhivedichan*, *Kunthalai* and *Kudavalai*, which had high nutritional value, were disease-tolerant and less water thirsty. Over a period of time, with the introduction of high-yielding varieties of paddy, the total area under cultivation of traditional landraces has declined. Some of the genotypes of landraces have also become extinct due to non-

cultivation as well as scarcity of seeds, especially after ravage by floods and drought. Also, the upland rice landraces have been replaced by groundnut and casuarina.

Against this background, there is need to establish a Community Seed and Gene Bank at panchayat level to preserve the seeds of the landraces with particular tolerance to abiotic stress. This would help communities to tackle the effects of climate change. Ms. Jeyalakshmi asked for advice and support in promoting community seed banks at the panchayat level and at the policy-makers' level.

## Water Conservation and Health Hygiene

**Ilavarasi Ramamoorthy,** the panchayat president of Pudhupalli, is the recipient of the *Gram Nirmal Puraskar Award* for implementing a successful sanitation programme in her panchayat. She has taken several steps to renovate ponds and enhance water conservation efforts in her panchayat under NREGS. There is a fair amount of rainfall (about 600 mm) received in this area during November and December. But there is also water stagnation hampering crop growth. In order to remove the water stagnation in the fields and choked canals, the drainage canals were cleaned with the participation of village communities. Desilting and interlinking drainage channels were also carried out to facilitate the smooth flow of water.

## Mangrove Conservation

The mangrove species acts as an effective bioshield protecting the lives and livelihoods of coastal communities from cyclones, floods, tsunamis, etc. The mangrove ecosystem also provides nourishment to fish, crabs, prawns, and other aquatic forms, thus contributing to the livelihood base of millions of artisanal fisherfolk. In order to restore, conserve and sustain mangrove wetlands in a participatory manner, a Joint Mangrove Management (JMM) programme was introduced in 1997 in the Pichavaram mangrove wetlands by MSSRF in partnership with the State Forest Department and local communities. The mangrove bioshield restored at Pichavaram was significantly responsible for saving lives and livelihoods of the villages during the December 2004 tsunami.

**K. Senkani and Kalyani** are members of the Village Mangrove Council (VMC) in M.G.R. Nagar village, Chidambaram, and have been actively involved with other women in planning, implementation and monitoring of JMM activities: raising mangrove nurseries, planting mangrove seedlings and protecting them from grazing animals, and monitoring the growth of the mangroves. They have also trained other villagers in mangrove restoration methods and mangrove nursery raising.

Senkani and Kalyani asked if Panchayat Raj institutions will be allowed to raise mangrove forests in saline soils, and if so, which authority is to be approached for permission.

## Adopting New Technologies in Rice Cultivation and Disseminating Knowledge in the Farming Community

A progressive woman farmer from Pasupathi Kovil in Thanjavur district, **Kalaivani Rajendran** is a recipient of the ASPEE Women International Rice Award for her excellent contribution to rice cultivation. She has practical experience and expertise in the System of Rice Intensification (SRI) technique of rice cultivation, hybrid seed production, usage of drum seeder for direct sowing, etc. She has been sharing her knowledge with fellow farmers in and around Thanjavur and Nagapattinam districts through demonstration-cum-model plots, the VRC and VKC network, exposure visits and training programmes.

She has also created awareness among the farmers on the advantages of bio-control methods for pests and diseases management, preparation of Pseudomonas and Trichoderma and so on. She has started small-scale production of bio-control agents and is using them in her own field and also markets the same to fellow farmers.

Kalaivani raised two points:

1. The government should provide compensation for the families of farmers bitten by snakes and poisonous insects during agricultural operations in farm fields.
2. At present agricultural loans are available only to those women farmers having land-ownership documents like *Patta* and *Chitta Adangal.* But most of the land-holding women farmers do not have these in their names and are therefore quite disadvantaged. Policy support is needed for provision of loans even without such documents.

# Sempatti Village Resource Centre, MSSRF, Tamil Nadu

Sempatti Village Resource Centre (VRC) is located in Dindigul district. It is an agriculture-based VRC. Horticulture crops such as vegetables, spices and coffee are the major crops in the district. Dindigul is an important wholesale market for onion and groundnut. Women farmers from the Kolli Hills took part in the Virtual Congress under the aegis of the Sempatti VRC.


## Millet Conservation

Kolli Hills, located in Namakkal District and forming part of the Eastern Ghats, is inhabited by a group of agriculture-dependent tribes known as the Malaiyalis. They raise a wide range of millets like Little Millet, Finger Millet, Foxtail Millet, Kodo Millet and Common Millet under different agro-ecological and landscape conditions. Over the last three decades, opening up of the area by way of road networks, bus facilities and development interventions like the Public Distribution System (PDS) have relegated such nutritious millets crops to the category of Neglected and Underutilised Species (NUS).

**Manjula, Chellammal, Jeyam** and **Latha** described how MSSRF has undertaken systematic interventions in NUS of millets in four areas: conservation, cultivation, consumption and commerce. Seed banks were established in 15 locations to strengthen farmer-to-farmer exchange of quality seeds of millets. Since women play a crucial role in seed selection, seed storage, sowing and harvest, their traditional knowledge was used to promote the intervention. Mini processing mills designed for processing millets were introduced which reduced the drudgery of women and led to a revived interest in their cultivation and consumption. Several members of SHGs have been trained in diverse value-added products. Many of these products are now sold in the regional markets, fetching additional income to households.

## Promotion of Organic Pineapple Cultivation

**Susila, Tamilselvi** and **Selvi** talked about the efforts of MSSRF in the promotion of organic cultivation of pineapples by linking farmers directly with companies exporting organically produced pineapples, doing away with the need of women and men to carry their products to weekly markets by the establishment of procurement centres, stabilising fixed market prices throughout the harvest season, and providing on-the-spot payment.

These have had a significant impact on the lives of farmers. These products have been certified by agencies like ECOCERT to enable farmers export their produce as organic and participate in international markets.

# Yavatmal Village Resource Centre, MSSRF, Maharashtra


Yavatmal VRC is located in the Vidarbha region of eastern Maharashtra. Cotton is the major crop grown in this area.

## Natural and Eco-farming

**Karuna Vasantrao Futane,** of Rawala village in the Warud taluka of Amravati district, said that she has not had any formal education, believing that "formal education gives information but knowledge and wisdom can be gained only through practice". She and her husband, an agriculture graduate, have been involved in natural and eco-friendly farming over the last 28 years, inspired by the book *One Straw Revolution* by Japanese scientist, Masanobu Fukuoka.

Starting farming at the age of 13 with growing 500 kg of papaya on 0.2 acre of land, she earned Rs.1000. Over the years, she has conserved more than 50 locally suitable traditional varieties of 15 different crops and has also developed two different rainfed paddy varieties having high productivity and palatability. She grows vegetables and fruit, including 20 varieties of mangoes.

Karuna explained that contour bunding done on the sloping terrain of their land increases soil moisture, controls soil erosion and improves yield and bio-mass. She uses human urine and castor cake to manure her land. Six acres of wasteland have been developed as forestry for promoting the diversity of 50 different species having medicinal, edible and commercial value.

Karuna shared her expertise with two other villages, Jamthi and Lakhanvihir, and has also set up 10 learning centres for rural youth on natural farming and sustainable agriculture.

## Organic Farming:

**Anasuya** lives in Wasripod village in the Ghatanji taluk of Yavatmal district. She has promoted an NGO called Dharmamitra to spread the message of organic farming. On her 7.5 acres of land she cultivates several varieties of millets and vegetables as well

as cotton, using compost comprising cow dung, agro waste and weeds. Through her organic farming practices she has brought about two major changes: improvement of soil texture and reduction in disease and pest attacks. She undertakes contour bunding to conserve soil and water, which in turn promotes better crop growth and yield.

Anasuya spoke about her efforts in testing different organic farming practices on 3 acres of land specially used for the purpose, and said that she continuously transfers her expertise to fellow farmers.

## Seed Conservation by Traditional Method and Balanced Use of Fertilisers

A tribal woman residing at Mandwa village (also Ghatanji taluk, Yavatmal district), **Bhimabai Narnware** is a member of the Self-Help Group formed by an NGO called Dilasha and cultivates cotton, pigeon pea, blackgram, greengram, mot, maize, jowar and soybean on 8 acres of land.

Bhimabai described how she conserves seeds, especially of pulses, employing the traditional method of using pots made out of *waghota* leaves and neem leaves. Multiple layers of these leaves are built up to half an inch of thickness on the inside of the pot to protect seeds from insects. The external layer of the pot is knitted with rope and a small hole is made on the top to put in the seeds. After filling the seeds, the opening is closed with cotton and hung on the sides of huts or on trees. More than 70 varieties of seeds of various crops have been conserved in this manner. The important aspect is that all the traditional varieties are cultivated for consumption purpose using only organic manure. However, Bhimabai grows hybrid varieties of cotton, soybean and jowar with balanced use of both chemical fertiliser as well as organic manure.

The participants representing the Yavatmal Village Resource Centre were of the view that the recent practice of mono cropping in the Vidarbha region leads to food and nutritional insecurity and also affects soil health and causes water depletion, leading to low productivity. They felt that mono cropping should be eliminated completely and mixed cropping should be promoted. If government could evolve a policy to distribute millets and pulses through the existing Public Distribution System (PDS), it

will encourage farmers of all categories to adopt mixed cropping and intercropping. In addition, the extension services and research support should be there to promote sustainable agriculture on par with modern agricultural practices. If these steps are taken, nutritional and food security at household and community level will be enhanced and soil health will be improved, thereby contributing to a sustained eco-system.

Another observation set out by this group was that the knowledge of traditional practices of farming and traditional crop varieties was being lost because of the recent change in farming patterns to modern crops. This is a serious threat to agriculture and society as a whole, as the younger generation was moving away from farming. Therefore, there is an urgent need to scale up research on traditional crop varieties to highlight their nutritional, cultural, medicinal, fodder values and also their drought and disease tolerance. The research findings have to be disseminated to the younger generation to impart knowledge on traditional crop varieties and their significance in the food chain.

# Amrita Kripa Charitable Hospital Village Resource Centre, Kalpetta, Kerala

Kalpetta is in Wayanad district, a global biodiversity hotspot tucked away in the north-eastern part of the Western Ghats in Kerala. The inhabitants of this area mainly belong to tribal communities.

## Conservation of Landraces

**Kalyani Palott, Devaki Alamoola, Ammini, Devaki** and **Rugumini Bhaskaran** represented the Kurichya and Kuruma agricultural tribal communities of Wayanad. These communities have been conserving several novel rice genotypes that are drought- and flood-tolerant as well as possessing medicinal values. They were awarded the Plant Genome Saviour Community Recognition — the Genome Saviour Award — for the year 2008 by the Protection of Plant Varieties and Farmers' Rights Authority (PPVFRA), New Delhi.

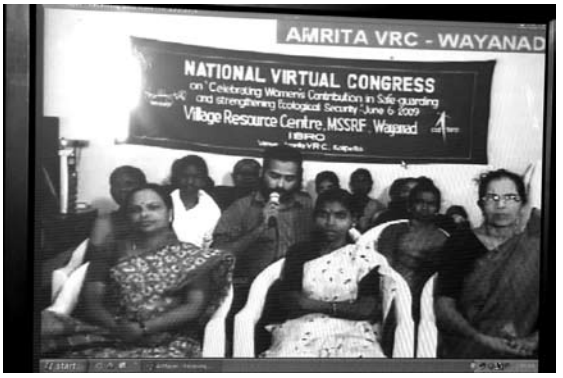
These women farmers listed the different traditional rice varieties that they conserved and cultivated. Some of the 75 different landraces are: drought-tolerant and short-duration varieties like *Palthondi*, *Palveliyan*, *Thonooranthondi* and *Urunikaima*; scented varieties like *Chempath*i and *Chennellu*; medium to long-duration varieties such as *Gandhakasala* and *Jeerakasala*; flood-tolerant, long-duration varieties like *Marathondi*, *Chettuveliyan* and *Chenthadi*. Chennellu has medicinal properties, *Veliyan* is served in community feasts and Gandhakasala is cooked as a special dish for distinguished guests.

The yield from the traditional rice varieties is less than that from modern improved varieties, hence making for lower economic returns. The cultivation of banana from an acre provides a net income ranging between Rs.40,000 to Rs.60,000, compared to income from rice which is Rs.3,000. Pointing out this fact, the women farmers asked for R&D support for increasing the yield of traditional varieties. Social and economic recognition are equally vital to continue their efforts in future. Other issues brought up included subsidy schemes linked with chemical inputs and access to rice promotional schemes.

## Knowledge of Wild Food

**Meenakshi, Rugmini, Kamala** and **Sarala** all belong to the Muthanga Kattunaikka tribal colony. They explained how the tribal communities of Paniyas and Kattunaikkas depend

significantly on wild foods for their food security and talked about the problems they faced. Leafy greens, tubers, roots, fruits, seeds, mushroom, honey, crabs, birds, tiny animals and fish are important wild foods used for consumption. The Paniyas depend on wild edibles chiefly during the agricultural lean season while the Kattunaikkas rely on them throughout the year.




In 2005, the Community Agro-biodiversity Centre (CAbC) of MSSRF which is located in Kalpetta documented the traditional knowledge on the harvesting and utilisation of wild edibles. MSSRF has taken steps to set up conservation gardens for wild edibles such as tubers and leafy greens. This programme is implemented in partnership with the Kattunaikka community in the Muthanga Wildlife Sanctuary. The main aim of the conservation gardens is to address the problem of malnutrition and also to ensure sustained availability. Due to near-drought conditions and lack of irrigation facilities, the focus is on drought-resistant wild and semi-domesticated tubers.

The many problems related to wild foods include attacks by wild animals, injuries due to falls from trees while collecting honey, conflicts with forest officials, access to wild food during the rainy season, etc. Added to these are changes in land use pattern due to deforestation and cropping practices, unsustainable harvest of forest / wild resources, lack of interest in the younger generation to engage in wild edibles collection as well as paucity of transfer of knowledge of wild food to them.

## Sustainable Use of Medicinal Plants

The Community Agro-Biodiversity Centre at Wayanad has initiated a programme called Bio-health to promote the conservation and sustainable use of medicinal plants in order to raise the economic status of women belonging to marginalised sections of society. **Elamma, Reena, Chinnamma, Shaharban,** and **Vinodini** are some of the women belonging to tribal and economically backward communities who participated in this programme to learn the preparation of herbal formulations for

fulfilling primary health care needs, and also to use those with nutritive and cosmetic value. Under this programme, the trained women are able to identify, conserve and make sustainable use of nearly 75 species of medicinal plants and to prepare 36 herbal formulations. The women are able to earn a net income ranging between Rs 10,000 and Rs. 50,000 per season from the sales of herbal produces locally.

Elamma and her companions brought to the fore the difficulties in marketing the herbal products on a large scale. The market structure is complicated, and the Good Manufacturing Practice (GMP) standards are difficult to follow with low levels of investment. As against the unauthorised collection of medicinal plants from the wild and from forests, the cultivation of such plants is encouraged. However, the unauthorised (illegal) collection of medicinal plants still continues, which depresses the price of the cultivated medicinal plants, making cultivation a less remunerative venture. This group of women wanted strong measures to control unauthorised collection of medicinal plants from the wild. Measures to ensure nominal profit for cultivating medicinal plants, either in the form of incentives or subsidies, were also urgently required.

# Jeypore Village Resource Centre, MSSRF, Orissa


Koraput district, where the Jeypore VRC is located, lies in the southern part of Orissa state. More than 60% of the population belongs to tribal communities representing 32 ethnic groups. Agriculture is the mainstay of their economy, followed by wage employment. Being in the foothills of the Eastern Ghats, the tract is very rich in biodiversity and is regarded as a secondary centre of the origin of rice.

## Landraces Conservation

**Chandrama Masiha** of Nuagada village proudly declared that the Genome Saviour Award (Plant Genome Savior Community Recognition) for the year 2007 was awarded to the Panchabati Grama Unnayan Samiti (PGUS) for their collective efforts in conserving rice germplasm. This is a registered body located at Tolla village of Koraput district, with the majority of its members from three indigenous tribes of 17 villages, viz, Paroja, Bhumia and Gadaba. As many as 17 landraces known as J or T lines have been released through the State Variety Release System. These traditionally conserved materials of the farmers are used as parents for developing improved varieties like *Padma*, *Jayanth*i, *Vijaya*, *Pooja*, CR 1014 and *Ketekijoha*, released by the Central / State Variety Release Committee. These varieties occupy a substantial area of paddy cultivation and contribute to increased rice production in the region.

Chandrama asked for support from government agencies (such as Protection of Plant Varieties and Farmers Rights Authority, New Delhi) to help them conserve many more landraces. PPVFRA can help them in registering farmers' varieties for future benefit sharing. Rural community godowns and community gene banks need to be set up for storage of rice after harvesting. Community gene banks can be facilitated in different agro-ecological zones of the district with linkages for exchange and safe conservation.

Other suggestions made were that rice research institutions in the state should support the genetic purification of selected local landraces of rice and that Krishi Vigyan Kendras can play a major role in implementing the programme at the local level. Grass-root hybridisation programmes can be planned using the landraces of rice as one or both the parents. Government should procure landraces from the tribal villages at a fixed price to save the farmers from distress sales.

Chandrama also felt that value addition through exposure trainings in Home Science can bring economic security for the tribal farm families.

## Kalajeera Production and Marketing

**Manima Dalei** of Tolla village pointed out that among the several landraces of rice in the region that are aromatic and scented, one of them, the scented variety called *Kalajeera* has been purified through participatory plant breeding over a period of seven years and cultivated in a large area. The women farmers were able to get a premium price of Rs.15 per kg through market linkages with NAFED.

Manima said that one of their concerns was that though the yields are good, community godowns and storage facilities need to be set up. Also, market linkages and assured support price for the variety must be ensured before the planting season. She suggested that value addition to this scented variety will result in its being used in a ready mix for *payasam* and *pulau* and the government can help with approaching processing companies in this regard.

## Water Conservation

Koraput district receives 1500 mm rainfall annually but this is confined to just 3 months in a year. 80% of the total rainfall occurs during July and August and water is not available during the critical cropping periods, leading to acute drought stress. Also, a high velocity surface run-off of rainwater leads to loss of fertile top soil. There is only a single crop in a year and for most part the land remains fallow.

**Chanchala Naik** of Maliguda village stated that women actively participated in decision making and contributing wage-free labour for the establishment of water harvesting structures in their villages. They also organised themselves into water user groups and monitored or regulated the optimal utilisation of available water during on-farm and off-farm seasons. In addition, the women normally protect the forest areas surrounding their village, which in turn helps the growth of forest cover, reducing soil erosion and enhancing moisture retention in the hilly tracts for a few months after the rain is over.

Chanchala requested technical support on water and land management as well as for the organisation of exposure visits to other parts of the country to learn the efforts in water and soil conservation. Scientific knowledge and appropriate technology for dry land cultivation can be extended to the local area so as to enable them to get maximum returns from the resources. If irrigation facility is available, fallow land can be used for cultivation of vegetables, groundnut, etc.

## Medicinal Plants in Home Herbal Gardens

Koraput district is rich in medicinal plants. The tribal people of this region mostly use the traditional system of medicine for meeting their primary healthcare issues, as modern healthcare facilities are far away and less accessible. There are a large number of traditional healthcare practitioners who provide herbal drugs. MSSRF has initiated home herbal gardens and a set of 14 medicinal plants were provided to around 400 households for being planted in their backyards to be used for their primary health needs.

**Raimati Ghiuria of** Nuaguda village said that the major issues the women farmers who cultivate the medicinal plants face are the creation of awareness about and promotion of herbal health care practices, the propagation of endangered medicinal plants like *Gloriosa*, *Rauvolfia*, etc., and the prevention of unsustainable wild harvest of medicinal plants from forest areas. Technical and financial support for market linkages, particularly for large-scale cultivation of medicinal plants that are suitable for this region, are greatly needed. At the policy level, if knowledgeable herbal practitioners could be given the necessary authority to practise as traditional doctors, it will encourage the younger generation to carry forward the profession.

# Khejarli Village Resource Centre, School of Desert Sciences, Jodhpur


**Sayeeda Gafar Khan Ghori, Sundar Karnaram, Rahmat Iqbal** and **Suki Baburam** of Birami village and **Dhayali Devi Sargara** and **Roopa Devi Meghwal** of Motuka Meghawalo ki Dhani village represented the Marwar region of Rajasthan where the Khejarli VRC is located. This region receives about 285 mm of rainfall, which occurs in the four months from June end to September. The number of rainy days is generally only 12 in these four months. Part of the Thar desert, this area experiences drought for three years in every five-year period. Rainfed agriculture is the major livelihood for majority of the population. Even groundwater is of no use as it is highly saline and occurs at deep levels

## Drought-tolerant Local Crop Varieties

Agriculture is the primary occupation of the people. The major crops in this region are bajra, mooth, moong, gwar, jowar and til during the *kharif* season. Farmers who have irrigation facilities like dug wells, borewells or ponds are able to cultivate wheat and vegetables during the *rabi* season. Bajra, moong and mooth grains are used mainly for household consumption, while wheat and vegetables are sold for cash which is used for household expenses.

Only a few families are continuing to grow the traditional varieties of bajra and moong. Such traditional varieties that were cultivated over 90 to 110 days have been replaced by new varieties which are harvested in about 70 days and which yield more per acre. Change in rainfall pattern is the reason for opting for shorter duration varieties. However, the nutritional quality is less than that of the traditional varieties as indicated by the declining ability of farmers to farm their own fields as well the reduced lifespan of both men and women.

Women are involved in in all aspects of agriculture, from land cleaning, weeding, harvesting to storing grain. They are also responsible for conserving seeds for the following season. Moong and mooth seeds are mixed with soil and ash and preserved in mud pots. Mud

containers coated with lime, which were used to preserve bajra grains, have been recently replaced by plastic containers with airtight lids. Caring for and maintaining livestock is also wholly women's responsibility. Due to lack of drinking water and fodder, the numbers of cows, buffaloes, sheep and goats have declined, and camels, very useful for ploughing and transport, have almost disappeared in the villages.

The women farmers expressed their concern that the availability of irrigation water is insufficient for agriculture. Lack of water affects their livelihoods. They also wanted to know what support they could get from various institutions to preserve the traditional grains which have more nutritional value.

## Water Management

Most of the women in the villages have enrolled for NREGP work, comprising about 70% to 80% of the work force. The project is mainly concerned with the improvement of water harvesting structures to store more rainwater. The women have also taken on the responsibility to prepare job cards and maintain attendance, field measurements and wage records. This is the first time in this region that women are managing NREGP work.

The women representatives from the Khejarli VRC expressed some problems. One was that the NREGP work was strictly for 8 hours, from 8 a.m. till 4 p.m.. Even if the assigned work was completed within the time, women had to stay in the site till the 8-hour schedule was over.

Another problem faced by the women was that the plan and estimate for earthwork was done by the engineer without knowing the field conditions. When a hard layer is encountered, the volume of earthwork reduces, so also the wages. The women felt it was unfair that they got less than the stipulated wage per day and claimed that the wages had to be calculated based on the hard or soft type of soil.

## Multiple Livelihoods

Since agricultural activity was only for four months, women turned to other avenues to augment their income. They worked as helpers in building construction, earning Rs.100 per day. They collected sour fruits ("Gunda") used for making pickle and sold them in the market, fetching a good amount of Rs 150-200 per kg during the peak season. Some of the women took to tailoring traditional Rajasthani dresses like the *ghagra-kurti* sets and earned Rs. 50 – Rs. 80 per piece. Others became proficient in weaving bands for cots and chairs.

# Shillong Village Resource Centre, North-East Space Application Centre

Shillong is the capital of Meghalaya, one of the smallest states in India. The economy is predominantly agrarian, with agriculture and allied activities engaging nearly two-thirds of the total work force. Meghalaya is the wettest state of India with average annual rainfall as high as 12,000 mm in some areas,

## Water Management

Several issues regarding water management to overcome the seasonal water shortages in the north-eastern part of India where the Shillong VRC is located were discussed by the participants.

**Jrop Sivon** and **Markynti,** women farmers from Cherrapunjee (now known as Sohra), which is located in Meghalaya and receives the highest rainfall in the world exceeding 12,000 mm per year, pointed out that despite all this, the East Khasi Hills of Cherrapunjee face acute water shortage notably during December to April. The major reason is that the heavy rainfall does not stay in the slope of the hills, rather it goes down to the valley. The farmers of East Khasi Hills sometimes have to go down to the valley to fetch water. Collection of rainwater by building dams is not possible, as the terrain does not permit construction of large dams that can hold water for the entire season.

Jrop and Markynti requested that the state government should adopt policy level interventions to set up innovative water management techniques, such as jalkunds, on a large scale across the hilly areas of the north-east region to mitigate water shortages and help in improving agriculture.

**B.H. Syeim,** a woman officer from District Soil and Water Department in Nongstoien who has worked extensively with women farmers across the region, described the traditional method of irrigation in the hills. Bamboo drip irrigation has always been an indigenous method of irrigating crops in the hilly region of Meghalaya. It allows for drip-irrigating plants by collecting the water from streams flowing down the hills. Apart from bamboo, other materials such as pseudo-stem of the banana plant cut through the middle can

also be used. The bamboo and the pseudo-stem of banana plant need to be changed at regular intervals due to degradation over time. Syeim also stated that the people of Meghalaya usually collect some of the water by small mud dams built near the streams, but these mud dams break open when there is a severe rainfall.

**Cidoris** is a woman farmer from Ri-bhoi district who has a small plot of land on which she cultivates paddy. However, due to acute shortage of water in winter, she has to leave the land fallow or otherwise has to carry the water up from the valley. A researcher from ICAR helped her to adopt the watershed management technique known as jalkund. Jalkunds are small dam water collection structures that are built with LDP (Low Density Polyethelyne) lining to prevent transpiration through soil and a simple thatched roof to prevent evaporation. Each jalkund can hold around 30,000 litres of water, which can irrigate 500 tomato or chilli plants or cabbage, and in addition 2 piggery units or for rearing 20 ducks or 50 poultry birds.

Cidoris felt that there needs to be modification to the current jalkunds as they are not capable of storing enough water to irrigate crops such as strawberry which can grow well in the local climate.

**Dwam Warjere,** a woman farmer from Manai – West Khasi Hills, said that similar to other woman farmers who practice agriculture in the hills of Meghalaya, she too suffers from severe shortage of water particularly during the winter season. She would like the policy makers to integrate indigenous and local watershed management techniques and infrastructure suitable for the hilly region into the NREGA programme so that watershed management can be carried out across all the hilly regions.

# Krishi Gram Vikas Kendra Village Resource Centre, Ranchi, Jharkhand


Jharkhand (jhar meaning forest and khand meaning area) fully lives up to its name with its various species of trees growing on clay soils in eroded ravine lands and on hill slopes. A large number of less known fruit species, which have immense potential for commercial exploitation, remain untapped in Jharkhand. Indigenous fruit trees like chironji, jamun, karonda, khirnee, mahua, tamarind, wood apple and other tropical fruits with high nutritive value like macadamia nut, mangosteen, passion fruit grow here successfully, even under adverse agro-climatic conditions. Jharkhand is inhabited by Karria, Munda, Gond, Orraram and other tribal communities who have the instinctive and natural urge to conserve trees, especially the non- timber forest produce which constitute their livelihood base.

## Production and Conservation of Lac Insects

**Helena Tete** is a Kharia tribal woman residing at Konpala Panchayat Jungle, Simdega district. She is the first woman from the Kharia tribal community who has acquired a post-graduate degree in Social Work. She is also a member of Usha Martin CSR Total Village Maintenance Team.

According to Helena, nearly 800 families in her village are involved in gathering lac from insects grown on kusum (*Silchera trijuga* or *Schleichera oleosa*) trees which give the best quality of produce. Every year 20 to 30 quintals are produced; while the government has fixed the price of lac at Rs.100 per kg, the farmers are able to get in hand only Rs.60 per kg.

The tribal families often face substantial loss in lac production due to various problems such as pests, pollution and temperature rise. Women farmers need scientific inputs in order to understand how to improve lac production and conservation of lac insects. They would like to benefit from the research being carried out at the Indian Institute of Natural Resins and Gums, Namkum, Ranchi, on lac insects.

## Forest Produce as Income

**Vimla Pradhan** belongs to the Gond tribal community of Simdega district. She has been actively working for the uplift of women and as far back as 1989, established the first

Mahila Samajik Sangathan to improve the educational and financial status of women. Today there are 88 such Sangathans in this region.

Vimla has trained and encouraged the tribal women to set up kitchen gardens and sell the produce. She has also made them aware of the value of non-timber forest produce which would bring in a steady income. An example is the chironji fruit which has various medicinal uses: an ointment made from its kernels is good for skin problems; the oil from its seeds relieves glandular swelling; the powder made from its leaves heals wounds and is also useful in digestive disorders. And chironji is a tasty additive in traditional sweets.

## Ahimsa Silk

**Fudo Devi** of Gumla district explained the concept of 'ahimsa' silk. In this method of non-violent silk rearing, the silkworm is allowed to metamorphose into a moth and emerge out of the cocoon and fly away, thereby letting it lead its natural lifecycle. The adults mate and produce a new set of eggs. The pierced cocoon left behind is carefully degummed and unravelled for spinning into silk yarn. Since the worm is not killed by boiling, it is called ahimsa silk yarn.

A group of women raise tassar silk in the wild for production of ahimsa silk. They get Re.1 per cocoon and most of it is sold through middlemen as these are treated as second quality silk due to the breaking of the thread in the process of the moth making a hole in the cocoon and flying away. The group would like to have scientific, financial and market support from the state so that their intent is publicised and correctly understood by the market.

The women farmers who represented the Krishi Gram Vikas Kendra VRC listed the support they wanted from research institutions, which included inputs on:

- the medicinal uses of the bark, root, shoot, fruit, seed and leaves of trees in their region
- the level of processing of the edible food form of these fruits and nuts needed to sell the produce
- the impact of climate change and pollution on these trees and their produce
- the identification and cure of all the diseases, pests and other factors affecting them

They asked for policy support for obtaining the minimum government specified prices for each produce as well as subsidy or support for their principle investment. Good market linkages with pharmaceutical and other medicinal research laboratories which will procure these undervalued products at the price they actually deserve were also major requirements.

# Khanakul Village Resource Centre, Sarvik Vivekananda Gram Seva Santha, Khanakul, West Bengal


Khanakul VRC is located in Hooghly district in West Bengal. It is an area which gets flooded during rains. **Shyama Rajbansi, Namita Bhanja** and **Swarupa Samanta** were the representatives of this VRC.

## Home Gardening

The women members of the Self-Help Group of Khanakul have taken the initiative to grow banana plants through tissue culture methods, which they learnt from the Sarvik Vivekananda Gram Seva Santha and awareness camps organised by the District Agriculture Office. Nearly 3000 families have participated and have already obtained one banana crop after 8 months of cultivation. Many families also grow papaya, bitter gourd and other vegetables by the tissue culture method to have early crops in their kitchen gardens. These attempts have not only generated more nutritious food for the family but also bring in some income (may range from Rs. 300 to Rs. 1000) when the extra yield is sold in the local market.

## Wild Food

Some women members have started cultivating wild vegetables like *Coccinia* (kundri), *Marsilea*, and some varieties of wild cucurbits and wild leafy vegetables and wild fruits for their daily food.

## Mixed Cropping

Paddy was earlier cultivated in this area, followed by mustard, potato, til or jute. But now there is a major change in the cultivation pattern due to rise in population and decrease in cultivable land for each family. Hence different crops are grown at the same time in the same field. Some of the women farmers are growing potato along with gourd, cauliflower, spinach, etc. Except gourd, the other vegetables are harvested within one and half months. After this, in that space, potato cultivation is started. At the end of January, gourd is harvested, and groundnut, ridged gourd (jhinge), cucumber, and string beans (barbati) are raised in the same field. The interesting thing to note is that jute cultivation has given way to groundnut (which is also exported) as the demand for jute

has been gradually decreasing. Mixed cropping provides safeguards against the failure of any of the crops.

The women SHG members asked for suggestions to improve the nutrition level in their food.

# Panel Recommendations

Eminent scientists, social activists and policy makers constituted the panel of experts who took part in the Virtual Congress. They listened to the various presentations made by the VRCs and gave valuable advice. Presented below are some of the suggestions that were offered, in an abbreviated and edited format to suit this publication.

The members of the panel included

- Dr Ajay K. Parida, Executive Director, MSSRF
- Dr. S. Nagarajan, Chairperson, Protection of Plant Varieties and Farmer's Rights Authority, Ministry of Agriculture, Government of India
- Dr. Sheetal Amte, Anandwan
- Dr Savitha Singh, School of Gender and Development Studies, IGNOU
- Dr C Manjula, Principal Scientist, Community Agrobiodiversity Centre, MSSRF

Dr. Sudha Nair, Senior Director, JRD Tata Ecotechnology Centre, MSSRF, was the moderator.

### Dr. Sudha Nair

We have had very interesting questions, very specific questions put to policy makers, to research institutions that provide technologies, to extension people who help and train these women, and others involved. Most of you would have also understood the challenges these women face in the rural areas, the multiple roles these women play under very, very difficult situations, and how a tool like ICT can really help them in knowledge empowerment programmes. There is a move to set up a national commission to look at women's empowerment and I am sure the recommendations from this unique Virtual Congress will feed into it and shape the national policy.

### Dr. Ajay Parida

Enhancing aqua sources and strengthening livelihoods using aquatic resources depend on appropriate policy support from the government, particularly in the present scenario of overexploitation and habitat destruction. It is not just catching fish, but the whole process starting from there to consumption or commerce, the entire chain is involved. Essentially, target capacity building of the fishermen and fisherwomen communities for value addition to the produce which they get is part of the guidelines for sustainable fisheries.

As far as mangrove conservation and restoration in saline soils is concerned, a whole lot of scientific inputs are required. Mangrove species are not identical all over the coastal areas, so different interventions are necessary. Most importantly, the gap between the knowledge holders and those who are at the grass-roots needs to be bridged for meaningful results. In this context, in our Foundation we have developed the Joint Mangrove Management Model which is a participatory management process or participatory conservation process of various restorations of the coastal saline land.

**Dr. S. Nagarajan**

I am now given the job of executing the Protection of Plant Varieties and Farmers' Rights bill that was passed in Parliament in 2001. Every year we call through press releases and through the NGO network for communities that conserve biodiversity, and so far we have recognised 10 communities in different parts of India. Very soon we will be coming out with a *Rashtriya Puraskar* to recognise and support tribal women communities in their work of conserving biodiversity and variation. I have a few comments to make on some of the issues that came up in this Congress.

The salt-tolerant rice varieties withstood the tsunami and still were able to yield. These varieties are the wealth of that area and they should be conserved and multiplied. There are also some banana varieties that were able to survive the tsunami. We have to categorise the saline-tolerant gene in rice and other crops before somebody else sequences and clones it, and uses it at the global level for commercial purposes. One method is to use the local varieties as geographical indicators (GI), because their defined quality — whether it is the saline-tolerant varieties, or *Kalajeera* rice, or others — is derived from the soil and environment of the particular location they are grown in. We will able to use GI as a marketing strategy for that product, say, for Nagapattinam rice.

Just like the Biodiversity Act at state level and district level, there should be a village gene bank, then the state-level gene bank. Only then will we be able to capture the enormous diversity of crops that India has.

We are very keen on the seed bank concept. PPVFRA will be glad to examine a project to develop a network of village seed banks, documenting the different storage procedures being used in the country (like medium storage through evaporative cooling systems, etc.), because our job is to protect seed biodiversity.

As regards wasteland management and rejuvenation, the area falls in the domain of the panchayat raj system. The village farmers can develop it in a manner they feel appropriate and if a voluntary group comes forward to undertake planting trees in the village wasteland, I think that would go a very long way.

### Dr. Sheethal Amte

I think all women farmers' questions are easily solvable at policy level if you allocate a special category for women that will concentrate on the women-based questions. There should be a special forum for women at village committees and a district-level committee and a state-level committee that can concentrate on their issues. Secondly, there should be a helpline, a toll free number to answer all the questions raised by the women farmers so that the expertise could be shared in the local areas itself. Thirdly, I would like to comment on access to forests. I know from experience in Maharashtra that women are most exploited in the time they have after the months after cultivation and denied access to forests, even to those adjacent to their villages. There should be a part of secondary forest area assigned to each village where these people could have their own conservation garden where fruit or medicinal plants could be cultivated.

### Dr. Savitha Singh

The inadequate support, inadequate marketing facilities, and other concerns the women farmers have voiced is really due to the theoretical problem that there are no pathways for valuing their work. The problem here is that most of the activities that women are engaged in — conservation of the ecological order, securing biodiversity, promoting nutritional diversity, conserving indigenous seeds and landraces and so on — are within the category known as 'household activity' These things are not valued by the market, it's not a job, it's not an important function that is recognised by the market. These are prejudices built into our mindset. Until and unless we seriously think about valuing domestic labour, until and unless we properly and adequately place the household in the life of human society, we cannot tackle it at the policy level. There has to be some value transformation at the level of conceptualisation of who women are, why they are not valued, why their activities are placed lowest at the level of every activity that takes place in society, etc. We need to re-order our priorities in terms of models of development and all activities are important, whether they are done at the level of domesticity or at the level of the state or at the level of ISRO or at any high scientific level. All activities are important, each has its function. This is the real definition of diversity, so we need to address diversity in a proper way, we have to revalue women's work and we have to strengthen women and give them the confidence to assert the value of their work.

### Dr. C. Manjula

I have some suggestions for solving problems like lack of adequate and quality technical guidance, lack of financial support and weak marketing structures.

Women's Self-Help Groups involved with income-generation work like lac production and tassar silk, apart from approaching the concerned technical institutes to increase productivity and tackle pest attacks, can contact institutes like the National Institute of Design / National Institute of Fashion Technology for assistance and guidance in adding much more value to their products. For marketing, Khadi Board should encourage such cottage industries.

SHGs working in the area of growing medicinal plants can have tie-ups with pharmaceutical companies for help in cultivation as well as marketing. They can negotiate better and steady prices with a buy-back arrangement for both their collected and cultivated herbs. Technology Business Incubator Institutes in the vicinity should be approached for value-addition and guidance right from identifying suitable herbal preparations on to packaging and marketing. Smaller SHGs whose women members collect non-timber forest produce like wild food and wild herbs should come together as a federation and work with the Forest Department to enhance their livelihood opportunities.

There is one serious concern I would like to share with you. Those of us who work with tribal communities are increasingly realising that their long-established knowledge is being lost. The younger generation is hardly aware of traditional plants and their uses. There are so many projects that could be taken up to revitalise tribal wisdom — not just documentation but working with tribal women, in particular, on what to grow, how to grow, when to grow crops that would ensure their food security, nutrition security and livelihood security.

# Summing Up

The Virtual Congress was brought to a close with the concise summing up of the session by **Professor M.S. Swaminathan,** Chairman, MSSRF.

I want to draw attention to two major characteristics of this Virtual Congress: first, the power of modern technology and second, using the technology for practical purposes. We are all sitting here and listening to women from nine different locations in the country, describing their work and experiences and associated problems. We did not move out of Sriperumbudur or this hall. You heard them while over here.

I want to remember two great men of this country who worked to use this latest technology for solving the problems of the poorest strata of our society: Dr. Vikram Sarabhai, the father of space age technology in India, who insisted that technological transformation should reach the common person; and Rajiv Gandhi, who, as prime minister of our country, was very keen on pushing the role of ICT in our day-to-day life and who also had high hopes about the youth of our country, young people like many of you here. I am sure both of them would have been happy if they had been sitting here in the last three hours. The significance of this conference, apart from communicating the various issues raised by women in different places, is in the demonstration of the rich cultural diversity, the rich linguistic diversity that is the beauty of our country.

As I see it, the interventions needed to solve the problems raised in the nine different locations fall under five major groups. The first is **technology**. Take for example, the situation in Cherrapunjee which we all — even schoolchildren — know as the area receiving the most rainfall in the world. But today we heard about the problem of water shortage there for four to five months from December to May until the south-west monsoon arrives. The jalkund, the small, low cost water collection structure, is a technological breakthrough suited for methods of water harvesting and water saving in the villages. The participatory breeding techniques that is seen in Orissa, particularly in the development of *Kalajeera* rice, is another example of scientific technology motivating the local community. Participatory research and participatory knowledge management are exceedingly important, enriching both the scientists as well as the rural and tribal women.

**Training** comes second. The women farmers have told us that they want to learn by doing, by hands-on experience, not by theoretical lectures. This is also the principle behind the Krishi Vigyan Kendras, where the concept itself is called techniracy or technical literacy, learning the latest technical skills by doing, by work experience. Women can master

any technology if it is demonstrated in a practical manner. The MSSRF people who are dealing with the Gyan Choupals, or the Grameen Gyan Abhiyan, will tell you that the rural women who are now academicians of the Jamsetji Tata National Virtual Academy all learnt by doing and that is the best way of empowering women.

The third issue is **techno-infrastructure**, that is, infrastructure necessary for the application of technology. Community seed and gene banks to conserve landraces, rural godowns to store agricultural produce, mini millet processing mills, herbal gardens for raising medicinal and herbal plants, etc., need to be widely developed and maintained.

**Trade** has to be made easier for these women as that is one area where there is so much of exploitation. Middlemen make all the money, paying farmers low prices and selling high in the market. We heard of at least two examples: cultivated medicinal plants and ahimsa silk. Unauthorised collection and sale of medicinal plants in forest areas cuts into the profits of those women farmers who cultivate the plants. Their investments have to be protected by incentives or subsidies, to ensure at least nominal profit. In the other situation, women produce tassar silk in a non-violent manner by allowing the moth to leave the cocoon. They are paid a very low price for the silk while merchants get a huge profit from the saris woven from such ahimsa silk. Therefore we must find ways and means to empower these women in trade in terms of their own value addition to their products and marketing the same through producer-friendly, women-friendly strategies. Self-Help Groups are good for this and they must be helped not just in production but also in using attractive packaging.

The fifth component is, finally, public policy on **entitlement.** The most important entitlement for a woman is the *patta* for the land she farms, because without it there is no credit availability. In fact, several crore rupees have been disbursed through schemes like the Kisan Credit cards, but hardly one to two percent has gone to women farmers. There are several other entitlement schemes such as facilities for crèches and daycare, and various land rights like those for tribal communities, scheduled tribes, forest dwellers, etc. All these have to be implemented properly. But, the most important entitlement for women farmers is access to credit.

In her address to Parliament, the President of India announced the setting up of the National Mission for Empowerment of Women, as part of the policy of the present government at the centre. Ultimately, political vision and political foresight are very important for investment decisions. I would like to suggest to my colleagues in MSSRF to develop a submission on the empowerment of women in agriculture, including crop husbandry, animal husbandry, fisheries, forestry, and so on. The President also announced that in every panchayat, there will be a village knowledge centre. That means

2,50,000 panchayats will have village knowledge centres. This is where ICT will be a very powerful tool to unite the country, thanks to ISRO technology.

I am happy that we are celebrating the role of women in ecological security, whether it is land, whether is water, whether it is bio-diversity, because in all these cases, the role of women has been critical and crucial, and will continue to be so.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