

From the very beginning of agriculture ten thousand years ago, women have been playing a pivotal role both in the production and post-harvest phases of farming. Their contributions to the conservation and enhancement of agro-biodiversity have been particularly very significant. They are the real genome saviours of the world.

Agriculture provides 57% of India's total employment and, 73% of India's total rural employment. Women constitute 73% of the agricultural workforce. Agriculture is getting increasingly feminized, in view of the growing migration of men belonging to small and marginal farmer and landless labour families to urban areas, seeking alternative livelihoods because of the uneconomic nature of small scale farming particularly in rain-fed areas lacking assured irrigation.

Women face multiple burden on their time, due to their role in child rearing, house keeping and many economic activities. They hence need support services like crèches, anganwadis, health care centres, etc., if they are to succeed in improving the productivity and profitability of farming. Due to lack of joint pattas or title to land, they do not become eligible for institutional credit and kisan credit cards. Research and extension agencies are yet to become adequately gender sensitive. Farm implements which can help to enhance work output and reduce drudgery are yet to become available in any significant manner. Krishi Vigyan Kendras are yet to be engendered. Thus Mahila Kisans not only suffer from a multiple burden on their time but also face many constraints in their day to day work on and off farms. **The future of Indian agriculture as well as food security will depend largely on the skills, technological, financial, and managerial empowerment of rural and tribal women.** Women farmers prefer a mixed farming system, based on the integration of crops and livestock and this is conducive to organic farming. India's leading position in the area of milk production in the world is due to the contributions of over 75 million women dairy farmers. The dairy industry shows the power of production by masses.

First National Virtual Congress of Mahila Kisan

On 5th January 2008, MSSRF, ISRO and AU organized a Virtual Congress of Mahila Kisans at the Convention Hall, Andhra University during the 95th Indian Science Congress. The Mahila Kisans participating in the Virtual Congress raised many generic issues related to the agriculture of their respective regions, practical problems faced by Women Headed Farming Families (like those whose male head had committed suicide) as well as involvement of women in agriculture.

During the Congress, seven **Village Resource Centres (VRCs) (Moosapet, Andhra Pradesh; Thiruvaiyaru, Tamilnadu;**



Village Resource Centres (VRCs) and Village Knowledge Centres (VKCs)

In 1992, M S Swaminathan Research Foundation (MSSRF) developed the concept of "Village Knowledge Centre" (community based). Since, 1997, MSSRF has been implementing the Village Knowledge Center (VKC) [Hub and Spokes Model] programme. In 2003, the VKC programmes were further strengthened in the form of creating Jamsetji Tata National Virtual Academy for Rural Prosperity (NVA) through the collaboration with several international and national partners (including in the areas of content and capacity building). The main aim of the programme is to empower vulnerable people to make better choices and achieve better control of their own development and enhance livelihood opportunities by building skills and capacities of the rural poor. The NVA programme aims to bring together experts and grassroots level communities in a two-way communication pathway with the objective of reaching knowledge to every home.

A Village Resource Centre (VRC) programme of NVA of M S Swaminathan Research Foundation (MSSRF) and Indian Space Research Organization (ISRO) was launched on 18 October 2004 by the Honourable Prime Minister of India. On that day advisories related to agriculture, fisheries, horticulture and tele-medicine were demonstrated.

The satellite based ISRO-VRCs, aim at digital connectivity to remote villages for providing multiple services such as telemedicine, tele-education, interactive farm and fisheries advisories, government schemes and entitlements, weather services and remote sensing applications through a single window. All the VRCs are connected through Indian Space Research Organization's (ISRO) uplink and downlink satellite facilities. Users located at one node of this network can fully interact with others located at another node through video and audio links. Each node can further be expanded and disseminated using different technologies such as notice boards, pamphlets, public address system, community newspaper, press releases, cable TV, audio / video conferencing through wireless, telephone, meetings, mobile phone and intranet web site.

M S Swaminathan Research Foundation, Tamilnadu; Jeypore, Orissa; Waifad, Maharashtra; Yavatmal, Maharashtra; Pokran, Rajasthan were connected through ISRO uplink and downlink satellites. This brought several women agriculturists together on a single platform to discuss and guide a policy change.

Several issues such as lack of adequate credit, problems of security as they had to go to their farms at night for pumping water due to erratic power supply, need for crèches to take care of their children when they go out to work, medical and risk allowance, demands for drought-resistant seeds, seed and grain banks in villages, government run shelters for abandoned cattle, women friendly agricultural tools and machineries, engendering curriculum in agriculture, joint title deed for agricultural land, were raised and discussed during the Virtual Congress in their local languages (Telugu, Tamil, Marathi, Hindi and Oriya).

These issues come under major categories such as land care and soil health, *jal swaraj* or water security, credit and insurance, technology,

extension and inputs, post-harvest technology, marketing and pricing etc.

The **brief background of each location** and the **issues raised** by the Mahila Kisans are as follows.

Moosapet VRC is operated by Adarsha Mahila Samaikhya – a federation of more than 6000 women and International Crops Research Institute for the Semi-Arid Tropics (ICRISAT). This is located in southern Telengana Agro-Climatic zone. Most of the women here are involved in agriculture and allied activities for their livelihood. The main agricultural crops are castor, groundnut, maize, chickpea, pigeonpea, sorghum, pearl millet, paddy and orchard crops.

Issues raised:

Due to the power fluctuations the farmers visit their fields during the night time for irrigating the crop. Most of the men switch on the motor in the night and switch off in the morning due to the fear of snake bite, electric shocks, etc. This method is suitable for paddy and sugar cane, but not for groundnut. The flooded water spoils the pod. In this situation the women farmer finds it very difficult to carry out field operations in the night time? Is it possible to provide power during day times?

Many agricultural equipments are designed keeping men in mind for land preparation to harvesting. Due to NREG, labor availability has become difficult and expensive. Due to this women have to do sowing, weeding and post harvest operations, ploughing, land preparation, dehusking and pesticide spraying, etc. We would like to know whether agricultural universities and research organizations could concentrate on designing women friendly farm machineries for women to carry out these activities including looking into their health aspect.

Thiruvaiyaru VRC located in Thanjavur District, Southern Tamilnadu. Thiruvaiyaru is the delta area, fed by river Cauvery. Major crops grown are paddy, sugarcane, banana, pluses and a few pockets growing in vegetables.

Issues raised:

For availing any credit facilities there is need for joint patta in the name of both kisan and mahila kisan. Is it possible to make some policy recommendation for issuing joint patta?

During the farm work, we generally take care of children. Is it possible under the NREGP to set up day care centres for children of Mahila Kisans?

Under the Tamil Nadu Women and Agriculture (TANWA) programme many women are getting training in agriculture. The mahila kisan are engaged in planting, weeding and harvesting. We also need proper guidance in water management in agriculture. Can agriculture universities / KVKs / VRCs develops training programme targeted to Mahila Kisans.

They spend more time in the slushy fields compared to men. Is it possible for the government to initiate any risk or medical allowance for mahila kisan or create separate Mahila Kisan fund at each panchayat level to support various activities of mahila kisan?

Is there any possibility of community based systems for grain drying and safe storage?



M S Swaminathan Research Foundation is doing research (both lab and field based) in six programme areas namely, Coastal Systems Research, Biodiversity, Biotechnology, Ecotechnology, Food Security and Information, Education and Communication. Since, 1997, MSSRF has been implementing the Village Knowledge Center (VKC) [Hub and Spokes Model] programme.

Issues raised:

Substantial numbers of studies have documented the crucial role played women in all stages of agricultural operations. But this reality is not reflected in the curricula and educational resource materials. We would like to know what kind of support systems and measures can be taken up by the department and ministry of agriculture so that the agricultural universities would have at least one trained gender specialist in faculty, Engendering curriculum should be made principal agenda in Boards of Studies Meeting, and engendering curriculum should be extended to extension departments of agriculture universities and KVKs. For example, the southern agricultural universities do not have separate course for engendering curriculum in agriculture based on their web site.

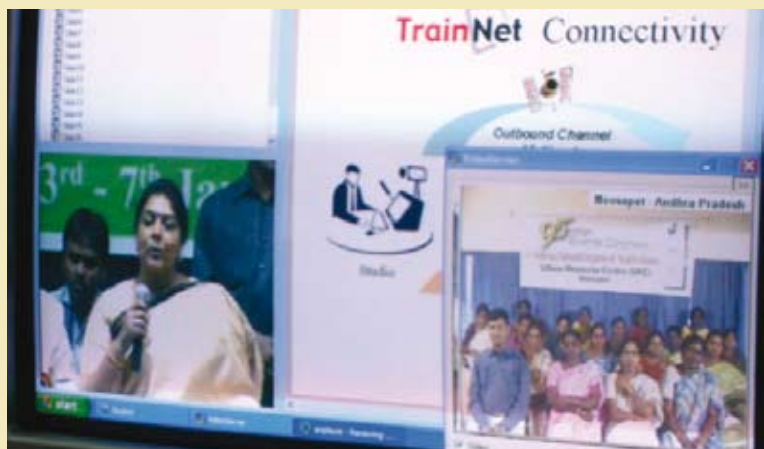
Jeypore VRC in Koraput District, Orissa. This is tribal dominated area and located in southern part of Orissa. Rain fed agriculture is the primary occupation. The location is known for landraces of paddy, traditional crops and medicinal plants. More than 70% of tribal women are involved in agriculture. The major crops are rice, ragi and pulses.

Issues raised:

We are involved in upland, medium land and low land cultivation. Like Moosapet Mahila Kissan, we also require women friendly farm machineries in the areas of weeding and hulling? Water harvesting structures / techniques are also our need. Timely availability of quality seed is major problem for us to carry out agricultural operations. Is it possible for research institutions and government departments to provide training in selection of seeds and set up the community based seed bank to address this issue?

We have plenty of rainfall. We cultivate only rice as a major crop. Is there any possibility of introducing any other crop following rice?

Waifad VRC located in Wardha district, Vidarbha region in Maharashtra, which has recorded a large number of farm suicides in the recent past. 93% of farming is dependant on rainfed agriculture. Cotton crop is replacing food crops in this area. Droughts are frequent, also floods in low land areas. High production costs and low productivity is affecting the livelihood of farmers. No additional support to farming



communities due to lack of secondary or allied agricultural activities. The illiteracy rate is very high.

Issues raised:

Heavy loss occurs to crop due to wild animal attack in the field. Due to crop loss due to wild animal attack, the kisans are not able to repay the bank loan and hence kisans are not able to approach the banks for any subsequent loans. Some of the male farmers put electrical fence and stay in the field at night. This is not possible for mahila kisan. Can government help to develop simple insurance policies for the loss of crop due to natural calamity such as drought, heavy rain and wild animal attack?

Can bank extend the time period of Kisan credit card for at least for five years?

In Vidarbha region, 85% farmers are dry land cultivators, and therefore, the question is why subsidy could not be given for the crops such as jowar, bajra and makka (sorghum, pearl millet and maize) like irrigated farmers? Also is there any possibility of crop diversification like horticulture, floriculture, medicinal plant cultivation, etc. If so, what are the market avenues?

Yavatmal VRC is located in Vidarbha region. Yavatmal district is famous for cotton, wheat, jowar and teakwood cultivation. In rabi cultivation is partly decreased due to uncertainty of the rainfall in recent years.

Issues raised:

Mahila Kisans who cultivate land on lease do not get compensation for loss of crop due to natural calamity, pest attack like redding of cotton or wild animal attack, as they do not have ownership of the land. Is there any solution or recommendation as to how mahila kisan could get compensation?

How do we get our soils tested for better yields?

Credit limit is far lower than the cost of land. For example, Mahila Kisan has to mortgage her land (which is worth of five lakh) just for Rs.50,000/-. At least 50% of land cost should be given as a loan.

Pokhran VRC. This is located in Jaisalmer district of Western Rajasthan. Annual rainfall of Jaisalmer is less than 200 mm. It is the most drought prone out of 12 districts in western Rajasthan. It experiences combinations of agricultural, hydrological and meteorological droughts. Agricultural droughts alone account for 70 years between 1901 & 2005 of which 45 years are severe and 25 years are moderate

affecting considerably the crops and fodder production. This has adverse impact on human and livestock population in all dimensions. Primary livelihoods are rainfed agriculture and livestock rearing. Major crops grown are bajra, guar and in some pockets mot and moong.

Issues raised:

Women are playing very dominant role in all agricultural operations except the initial land preparation and marketing. Mahila Kisans continue the traditional way of selecting and preserving seeds from the produce and using it for the next season. But the yield is not sufficient to meet the food requirement of the family. Is there any possibility for providing training to mahila kisans on advanced seed technology to increase the production with the same available quantum of water?

Large number of seasonally abandoned cattle graze the range lands and enter the agricultural field causing heavy damage to the crops. Women have to face hardships in keeping vigil and are unable to control the herds as most of the men migrate to find supplementary income. Is there any scope to expand the present scheme "fatak" (government provided shelter for the abandoned cattle) or any alternative methods to save the crops and fodder?

After the harvest of karif crop, mahila kisans are totally engaged in livestock rearing. Since large portion of gochar land are lying unused, it would be appropriate to allocate portions of the Gochar lands to the mahila kisans for group farming and water harvesting to cultivate fodder for their livestock.

Nine point Charter for Mahila Kisans

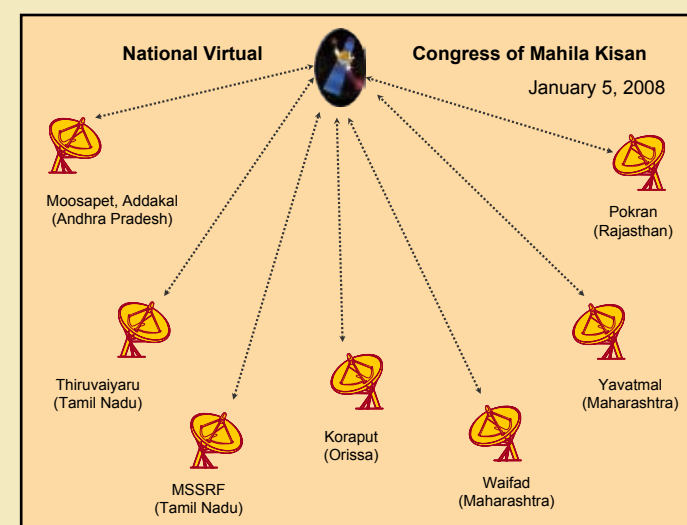
Based on the outcome of the First National Virtual Congress of Mahila Kisan, the following nine point charter was developed to address the issues of women in agriculture.

- 1. Title to Land:** Joint Pattas are absolutely essential for Mahila Kisans to get access to Kisan Credit Cards and institutional credit.
- 2. Right to Credit** both individual and to women self-help groups, and to insurance: New insurance schemes should be started for Mahila Kisans to cover them from occupational hazards, like leptosporosis infection in paddy fields
- 3. Support services like crèches, anganwadis,** etc. to take into account the multiple burden on a woman's time, such as child rearing, home keeping and income earning activities
- 4. Access to quality inputs** like seeds, organic and mineral fertilizers, extension advice, etc. at the right time and place
- 5. Training and Capacity Building** and imparting quality, genetic, trade and legal literacy; engendering the curricula of agricultural, veterinary and fisheries universities and Krishi Vigyan Kendras. The agricultural university movement will be 50 years during 2008 and it will be appropriate that the gender dimensions are mainstreamed in the curricula.
- 6. Jal Swaraj or irrigated and domestic water security** through training in water harvesting, aquifer recharge and more income per drop of water techniques
- 7. Meeting the needs of mixed farming,** involving crops, livestock, fish and trees; special attention to fodder and feed in the case of

livestock, and to seed and feed in the case of aquaculture; appropriate post-harvest technologies for processing, storage, transporting and marketing

- 8. Assured and remunerative marketing;** linking Mahila Kisans to markets, ensuring fair price and timely payment; provision of rural godowns and warehousing facilities; training in safe storage and in sanitary and phyto-sanitary measures
- 9. Reduction in drudgery and enhancing income per hour of work;** Farm implements, which can help to enhance work efficiency and reduce drudgery, are urgently needed. Traveling Exhibitions and Knowledge on the Wheels programmes may be organized to familiarise Mahila Kisans with the gender sensitive implements available in Agricultural Universities, ICAR institutions, IITs and KVKs.

If prompt action is taken on the above charter, Mahila Kisans would be able to make a major contribution to sustainable food security.



Panelists

- Prof. M S Swaminathan, Member of Parliament & Chairman, M S Swaminathan Research Foundation
- Smt. Renuka Chowdhary, Hon'ble Minister of State (Independent Charge) for Women & Child Development
- Ms Mabel Rabello, Member of Parliament & Secretary, All India Congress
- Prof. R Ramamurthi, General President of 95th ISCA
- Prof. L Venu Gopal Reddy, Vice Chancellor, Andhra University
- Dr Suman Sahai, Director, Gene Campaign
- Dr R R Navalgund, Director, SAC, ISRO, Ahmedabad
- Mr A Bhaskaranarayana, Director, SCP/Scientific Secretary, ISRO
- Dr V S Hegde, Dy. Director (Applns.), EOS/ Assoc. Programme Director, DMS/ Programme Coordinator, VRC - Indian Space Research Organisation (Hqrs.), ISRO, Bangalore
- Mr S Senthilkumaran, MSSRF (Coordinator)

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