



विज्ञान एवं प्रौद्योगिकी विभाग
DEPARTMENT OF
SCIENCE & TECHNOLOGY



विज्ञान प्रसार
VIGYAN PRASAR
An Autonomous Organization of
Department of Science & Technology
Government of India



STUDY OF WOMEN TECHNOLOGY PARKS

In the Country for Integrated
Development of Rural Women

A Brief Report

Catalysed & Supported by - SEED Division, Department of Science & Technology,
Government of India



ICT assisted products at sale in WTP in UPES, Dehradun



Women of WTP, Idukki, Kerala with Vetiver boxes



Sanitary Napkin Unit at WTP, Chikiti, Ganjam



Training on fisheries at WTP, South 24 Parganas



Women of WTP, Deoli Village displaying value-added products



Training of Coir pit composting at WTP, Annur, Tamil Nadu



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सत्यमेव जयते

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March 2022



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Executive Summary

Empowering women is essential for a nation's development and there is a need to generate income and employment opportunities for rural women. The Women Technology Parks (WTPs) enable the use of appropriate technologies to catalyse economic growth and development of rural women by raising their productivity, generating sustainable income, and improving their livelihoods.

Science for Equity, Empowerment and Development (SEED) Division of Department of Science & Technology (DST) has been implementing a scheme “*Science & Technology for Women*” for women empowerment through Science & Technology (S&T). Besides individual projects for technology development, up-gradation, modulation & replication, the scheme also focuses on establishing Women Technology Parks (WTPs) that are envisaged to act as resource centers, where all necessary support is made available to women for livelihood generation. Critical gap areas are addressed for empowering women, creating awareness on health and nutrition, drudgery reduction, and addressing other problems. WTPs thus pave way for women's empowerment by providing them with skill sets necessary for livelihood generation and elevating their socio-economic status.

First, identifying the need, and subsequently finding the appropriate technological intervention or innovative solutions that not only help resolve the issue but also generates income and employment opportunities for rural women, lies at the core of WTPs. Training and skillsets are imparted to rural women so that they can optimally use the technology and become self-reliant.

Continuous up-gradation of the technology, value addition to the products, making the technology and products align to the emerging needs and trends, catering to the market requirements/demands, and continuous improvement in the products are necessary for the sustainability of a WTP. The use of natural resources as raw materials that are found locally in abundance is what makes WTPs stand out from other income generating endeavours, as it is both environment-friendly and sustainable if tapped optimally. These WTPs have shown their viability even in remote areas of the country and act as a bridge between the scientific/technical institutions and the community members, particularly rural women.

This report sought to summarise and document the success of the WTPs as a scheme and as a “linkage” between rural women and the innovators/ researchers/ scientists. The study emphasizes every aspect of WTP and identifies the gap areas and limitations. The comprehensive analysis helps in understanding what needs to be done to bridge these gaps and do away with the bottlenecks. These limitations or constraints range from the very beginning of aligning the rural community to the technology to facilitating the market linkages for the finished products, or roadblocks on the way of making rural women start their own enterprises. Sustainability of the Women Technology Parks after the completion of the project period is ensured by strengthening the linkages with financial bodies like NABARD, District co-operative banks, other banks, etc. and also by bolstering the linkages for marketing of the products, with the help of District Industry Centre (DIC), State Rural Livelihood Mission (SRLM), etc. With a set of recommendations, the study tends to find a solution for these problems that confront WTPs and stand tall on the way of empowerment of rural women.

Background



Women extracting
Banana fibre at WTP,
Warangal

Women Technology Parks (WTPs) are technology modulation and training centers to showcase scientific technologies used for livelihood generation for the women. The objective of WTPs is to promote the development and adaptation of appropriate technologies for livelihood generation among women. Transfer of proven technologies and demonstration of live technology models to promote women's employment is integral to WTPs. WTPs act as "linkage" between rural women entrepreneurs and the innovators/ researchers/ scientists.

WTPs help create an environment that facilitates scientific and Knowledge Organisations or individuals to extend the recently developed technology or methodology that can be adopted by rural women to establish micro-enterprises and thus become self-reliant. These parks strive to address the weak links in the livelihood generation for women and promote social entrepreneurship and women employment.

The aim of WTPs is to create awareness and impart skill training to rural women on proven technologies so as to obtain optimal benefits utilizing the existing natural resources found locally in abundance. It makes the rural women aware of the technological intervention and "processing" that can enhance their income severalfold. WTPs provides hands-on training, promotes the establishment of micro-enterprises, ensures value-addition of the products and access to markets.

Objectives of Women Technology Parks

- To develop area specific technologies and make rural women adapt it for livelihood generation, transfer of proven technologies and live demonstration of technology models.
- To address the weak links that hampers the livelihood generation for the rural women in an area and promote social entrepreneurship and employment among women.
- To generate employment opportunities for women through their skill development and capacity building.
- Utilization of resources found locally and empowerment of rural women through S&T.
- To address issues related to health & nutrition, drudgery reduction and addressing the occupational hazards faced by women in a particular area.

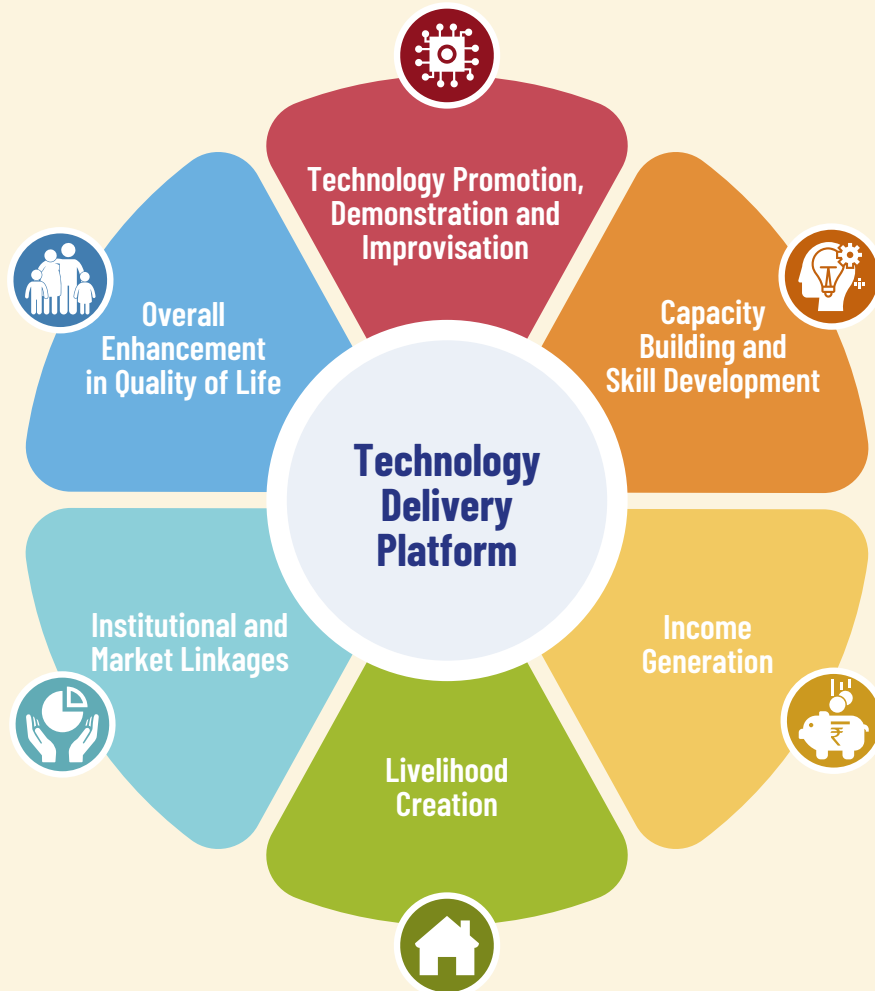
Women Technology Parks Across the Country



Thrust Areas of WTPs



Key Functional Areas of WTPs



Study of Women Technology Parks (WTPs)

for Integrated Development of Rural Women

The study of WTPs has been undertaken to assess the impact of WTPs as a technology delivery platform for improving the lives and livelihood of rural women. The study also analyses the status of WTPs across the country and compiles the best practices, key learnings and outputs. It would help in creating a general awareness about the WTPs and their functioning which in turn would help in replicating the successes to the other areas thus benefitting more and more women. It will have a multiplier effect in empowering women at the grassroots level. The study proposes a set of standard operating procedures to be followed by WTPs for their sustainability and a way forward for becoming a one-stop resource center for technology dissemination and capacity building.



Training on
wastepaper recycling
at WTP, Salem

This study examines the extent to which the skills have been acquired by rural women as a consequence of training and also the extent to which their livelihood has been improved. The study covered a sample of 33 WTPs supported by the Department of Science and Technology across the country.

The report compiles the key findings of the study. It is a comprehensive analysis of various aspects of WTPs such as duration and components of the training, training methods employed, benefits derived by the trainees from the programme, and its impact in terms of enhancing livelihood opportunities for rural women.

Focus of the Study

- Assessing the impact of WTPs.
- Identifying the opportunity and gap areas.
- Documenting best practices and showcasing success stories.
- Promoting WTPs among women at the grassroots level.
- Proposing Model of WTPs as centers of dissemination of technologies for empowering rural women.
- Suggesting way forward for sustainability of WTPs.

Parameters for Assessing the WTPs



Natural Resource Management



Infrastructure Support



Support from S&T Organizations



Information and Awareness Generation



Training and Capacity Building



Technology Demonstration and Delivery



Innovative Solutions



Local Enterprise Development



Product Development and Branding



Standardization and Validation



Establishing Linkages



Livelihood Generation



Identifying Strengths, Opportunities, Limitations and Gap Areas

Strengths

- Increased S&T knowledge among the rural women groups
- Increase in income generation activities
- Enterprise development
- Capacity building
- Value-addition utilising single resource
- Integrating Traditional Knowledge Systems

Opportunities

- One-stop centre for technology delivery
- Incubator for enterprise development
- Establishing linkages with local and State-level authorities, and other organisations
- Optimal utilisation of local natural resources
- Supports rural economy
- Creating sustainable livelihood

Limitations

- Lack of financial, market and technological literacy
- Availability of raw material and its high costs
- Lack of credit facilities and financial understanding
- Lack of skills to incorporate advanced technology
- Lack of space and equipment to start their own enterprise
- Inability to adapt to changing market needs and technology

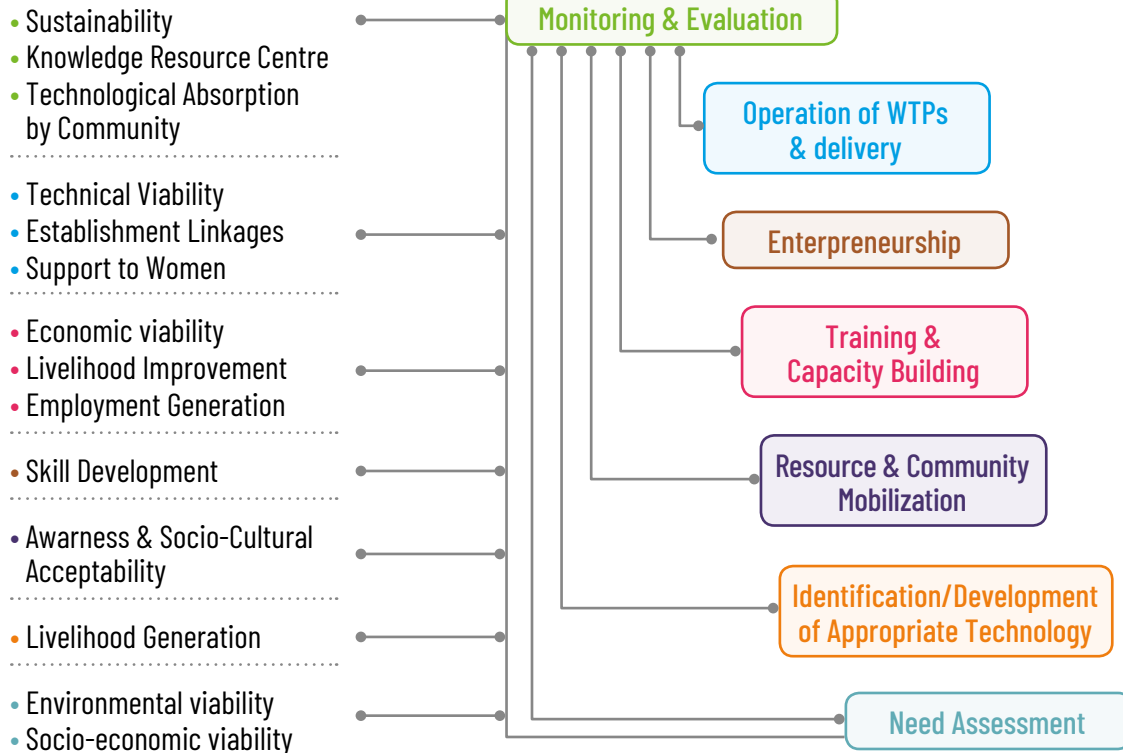
Identified Gap Areas

- Sustainability of WTPs
- Making rural women adopt the technologies for livelihood
- Lack of post intervention study and follow-ups
- Lack of testing and standardisation
- Quality control and certification
- Need for access to markets
- Scalability and replication of value-added products
- Making local products part of the value chain
- Use of advanced technologies in livelihood generation.



Framework for Implementation of WTPs

Influencing Factors



1. Need Assessment

An exhaustive and in-depth baseline study is required to gauge the needs at the grassroots level.

- It also includes identifying issues specific to rural women.
- Understanding the present capacities of the target group
- Helps in understanding the socio-economic parameters.
- Give an idea of how rural women are dealing with the present situation and what needs to be done.
- Know their expectations and aspirations.
- Understanding the specific intervention points to enhance the capacities of the women

2. Identification/Development of Appropriate Technology

Following the need assessment, it becomes imperative to develop or identify the appropriate technology that not only helps resolve the present issues through the S&T component but also generates employment and income opportunities for rural women.

The appropriate technology or the technological intervention can be from the scientific or knowledge organisations or an up-gradation of already existing technology or its manoeuvre to suit the local requirements. The technology developed or technological intervention can also be from the bottom i.e. grassroots.

3. Resource and Community Mobilisation

After appropriate technological intervention what follows is the mobilization of resources and community. It includes aligning the community members, here rural women, to make them understand that the science and technology (S&T) can help resolve their problems while simultaneously generating income opportunities by value-addition of the local products. The raw materials used for the production are often derived from the natural resources found locally in abundance. Socio-economic acceptability is emphasised upon.

4. Training and Capacity Building

Training rural women on the use of technologies, and their know-how is an integral part of WTPs. Hand-holding of rural women is essential to train them on the intricacies and nuances of using the technology and its use in the manufacturing of value-added marketable products.

Skill development of rural women helps them in livelihood generation. Capacity building is a continuous process having regular training and certification as integral component and it can be aligned with National Skill Qualification Framework of Government of India for enabling the trained women to enter into the mainstream of livelihood system. The focus has also been on orienting the participating women to learn new skills in a professional manner with comprehensive training manual and capacity building packages to help them.

The capacity building of women by enhancing their skills would bring about a socio-economic change as it enhances their income and elevates their standard of living.



Training Women
Mason at WTP in
Tamil Nadu

5. Entrepreneurship

WTPs promote rural women to be entrepreneurs and provide all possible support for the same. The basic idea is that women should be self-reliant and the technology developed/used for livelihood generation should be sustainable. There is also a need to replicate and upscale the technology. Financial support is also needed for entrepreneurship development and WTPs help in facilitating the financial support from the government and other agencies. Ensuring the economic viability is an essential component.

6. Operation of WTPs and Delivery

Ensuring the technical viability of the enterprises, establishing the linkages with markets and other essential linkages, and support to and from the rural women are essential for the successful operation of WTPs.

In order to make the WTPs a one-stop resource centre for empowering women, a participatory approach to design and implementation is needed. It starts from the proposal making for



Training of women
Mason at WTP in
Warangal

the project, site selection process, and continues through preparedness of the target women, creating an enabling environment for training and skill development, creation of women groups in form of SHGs, follow-up and monitoring.

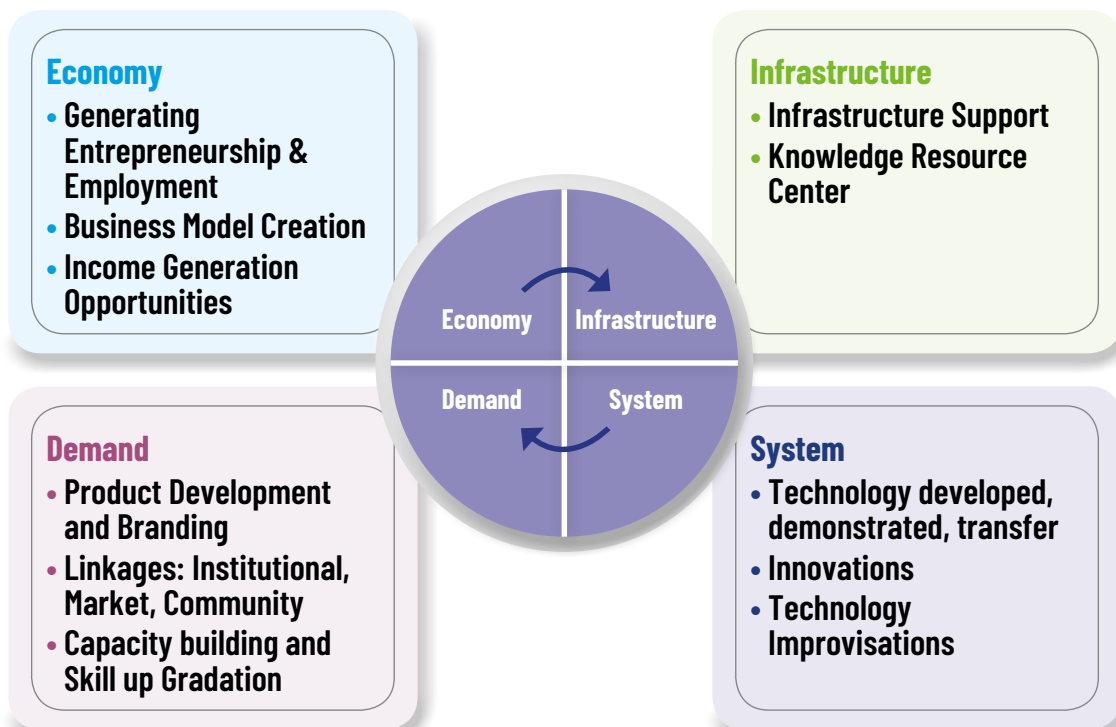
To encourage more women into livelihood activities and strengthening the social capital within the communities, tailor-made interventions keeping in view the interests and capacities of the women are also essential.

The approach to enterprise development becomes more effective through Group led or community led training programmes and could bring a significant change in the women through large scale participation and seamless adoption of appropriate technologies thereby making the WTPs an effective platform for technology delivery.

7. Monitoring and Evaluation

For ensuring sustainability and developing WTPs as knowledge Resource Centres regular monitoring and evaluation are essential. It helps identify the bottlenecks if any, and thus find ways to get rid of them. Evaluation helps in identifying the parameters or the weak areas that need to be reworked upon.

In Consonance with Aatmanirbhar Bharat



Recommendations for Sustainability of WTPs

1. Need to transform WTPs into “Parks” that demonstrate and exhibits technologies and strive for their sustainability.
2. WTPs to be set up as Incubation Centers: WTPs to generate awareness among communities, provide training, practical demonstration of various technologies and also support incubations of enterprises.
3. WTPs to act as a bridge between trained women, or women SHGs and Knowledge Organizations.
4. At present there is no monitoring of the WTPs, once they complete their term. Hence, there is a need for a regular monitoring and continuous assessment.
5. The selected technologies should be user-friendly, environment-friendly, cost-effective, must use one of the local resources and should be socially acceptable.
6. The technologies should be self-sustainable. The possibilities of replication of technologies to other areas so as to benefit more and more women, bringing on board the State Governments for large scale technology transfer and its dissemination, must be explored.
7. Scalability: The technologies should be scalable to cater to the emerging needs and generate new opportunities.
8. Need to facilitate and strengthen linkages between financial institutions and WTPs so as to provide financial assistance to rural women for entrepreneurship.
9. To augment the capacity of WTPs with the help science and technology components.
10. To work upon the constant upgradation of technology.
11. Facilitating access to markets and credit facilities.
12. Continuous value addition to the products developed by WTPs and making these aligns both to market requirements/ demands as well as local needs.
13. To establish inter-linkages between different WTPs so as to learn from the experiences and support each other.
14. Validation and certification of products for which testing facilities needed to be setup at various WTPs.
15. Training using advanced technology and aligned with National Skill Qualification Framework (NSQF) of Government of India for skill development.
16. Integrating the rural women / community with S&T organisation and government agencies for developing microenterprises and making these as sustainable entities.
17. WTPs should strive to make rural women start their own micro-enterprises and provide a conducive environment for the same.
18. All kinds of support, ranging from logistical to financial should be facilitated to the rural women so that they can become entrepreneurs.

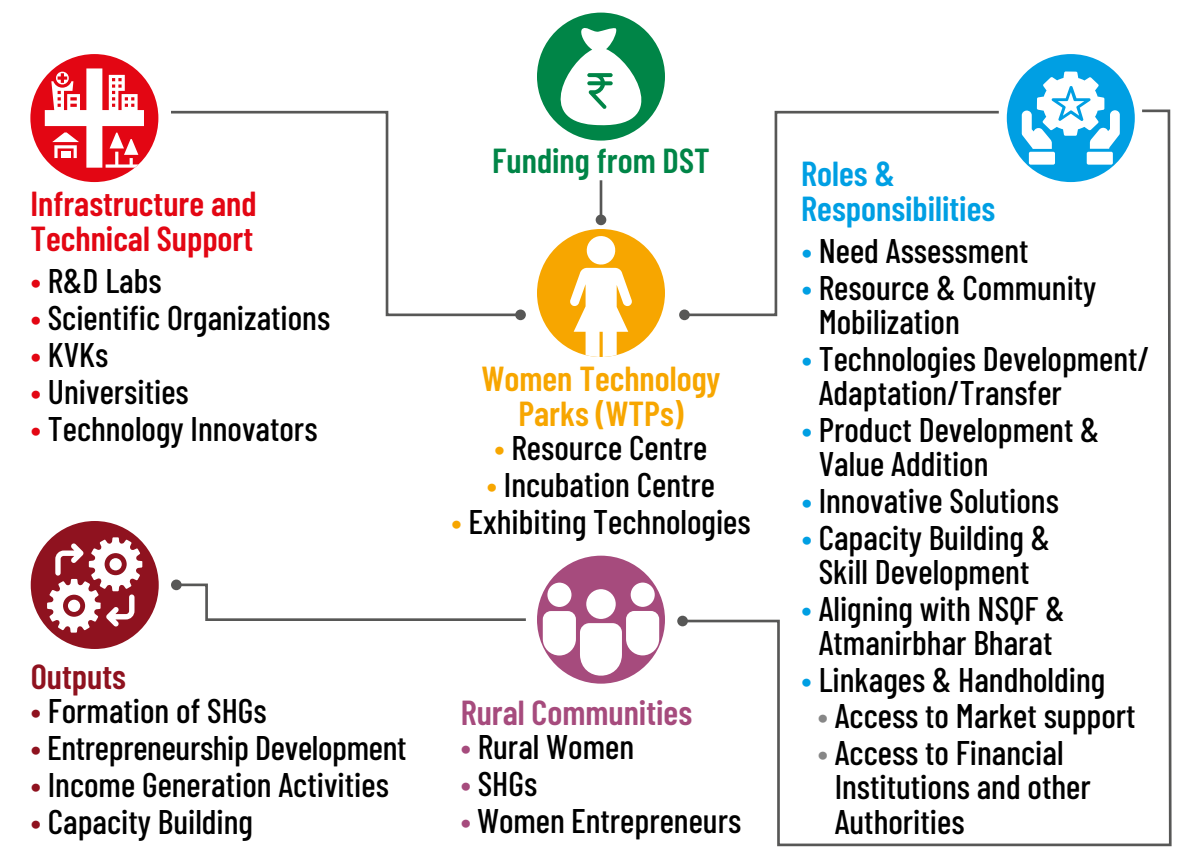


19. Handholding and facilitating the trainees so that they can optimally tap the linkages that enhances the prospects of livelihood generation.
20. The replication and scalability of the products and technologies can be explored by the WTPs to empower the rural women who have been trained.

Proposing an Ideal Model for WTP

An ideal WTP should have the capacity to impart training to rural women in technologies that optimally uses atleast one of the local resources, coming up with value added products that are source of income and livelihood generation for rural women. Facilitating women to be entrepreneurs by providing all possible support from financial institutions, banks, government agencies and strengthening market linkages are integral to model WTP. It should act as a centre increasing community resilience, through S&T components and further should be developed as park that demonstrate and incubates need based technologies and strive for sustainability.

- Enabling WTPs to act as centres for knowledge transfer to rural women, making them use the technologies, capacity building and help them to become entrepreneurs
- Empowering rural women by connecting them with appropriate technology delivery platforms
- Creating opportunities for rural women to improve their income and generate livelihood
- Providing training to women on use of appropriate technologies, product development and capacity building
- Facilitating the trained women with financial support and market linkages for developing micro-enterprises
- Strengthening the rural women S&T enable training that enhances prospects of livelihood generation



Success Stories of WTPs

Local Enterprise Development

Empowerment of rural women through agro-allied Micro and Small Enterprise Development, Idukki, Kerala

In the Kanjirapally, Ranny and Pathanamthitta Taluks of Kerala the technologies adopted by the WTP were nursery techniques and seed production, white pepper production, Vetiver (*Vetiveria zizanioides*) cultivation and production of value-added products from Cassava and Passion fruit. The technology employed was Vetiver Box of different shapes based on the requirement of the export market.

Facilitation cum marketing centre was set up and linkages with 32 experts/trainers and 11 S&T institutions have been established. Due to the food processing unit, a three-fold rise in the production of value-added products was witnessed while the benefits of Vetiver value addition units recorded an increase to ₹4875000 from ₹84000 in 4 years. A total of 720 women were benefited and 219 SHGs have been formed while 330 training programs were conducted.

As many as 15 nurseries were established leading to income generation, while 23 new products were developed under the four enterprises. Market linkages were developed with the help of Peramade Development Society (PDS), local shops, and exhibition by various Government and non-government agencies etc. A three-fold benefit is recorded due to food processing units producing the value added products like jam, squash, jelly, crushes and juice.

Some of these enterprises have registered themselves as independent entities which led to the registration of women startups in agriculture and allied sectors and also availing FSSAI & other approvals.

Enterprises Developed

S.No.	Technology	No. of Enterprises	No of People Employed
1	Vetiver	17	195
2	White pepper	3	10
3	Passion fruit	7	85
4	Cassava	6	63
Total		30	353

Rural Women Technology Park at University of Petroleum and Energy Studies, Dehradun, Uttarakhand

WTP at University of Petroleum and Energy Studies in Dehradun works on three technologies namely, recycling of waste paper, identification & cultivation of Medicinal and Aromatic Plant (MAP) species, and Information and Communication Technology (ICT) assisted art and craft design.

The WTP has trained around 390 women by conducting 14 training programmes. For facilitating the connection between the women who have been provided training, they have been registered as a cooperative society named “Mera Kaushal Mera Vikas”. Technology for manufacturing pencil out of waste paper was deployed and women were empowered.



Cow dung pot
unit at WTP
Kapurthala,
Punjab

Jewellery items were made by the rural women using date palm leaves, bamboo cut outs, wild non-edible seeds and other plant products. Following the ‘waste to best’ philosophy, adapting to market and customer demands, the whole exercise was made economically more viable. These products are eco-friendly and make good source of income for rural women. These women now use internet to analyse the market requirements, developed a website for product display and promotion, and came with products that can fetch higher prices.

The basic idea was to maintain a balance between the environment and the wise use of technology for the economic independence of rural women. The aim was to help rural women earn a fair wage by training them to make high-quality products using waste.

Local Entrepreneurs

Rural Women Technology Park in Chittoor District, Andhra Pradesh

Andhra Pradesh based WTP at Chittoor district, use raw materials, Tulsi and tender mango leaves, for manufacturing of products like cosmetics, fragrances. As many as 19 herbal products were produced 10 dehydrated food products using fruits, vegetables, and the production of virgin coconut oil. Both the herbal product and packaging technology were eco-friendly. Around 400 women were trained by conducting 8 training programmes, planned as per NSQF guidelines.

The products were certified with FSSAI license with brand name SPURThE (Sri Padmavati University Rural women Technology Enterprise). A small scale sustainable enterprise was thus developed by rural women.

Value added livestock products for socio economic empowerment of rural women

WTP at Deoli village, Bishnah Block, Jammu district, established utilises milk, meat and fish and other local resources for producing value-added products. These products were sold by popular food outlets in city and also by local food outlets. Thus a sustainable business model is developed and new opportunities are being explored.

Women involved in dairy, poultry and fisheries have been imparted training. A total 546 participants were trained through 54 training programs conducted at the centre. While around 75 women entrepreneurs have been benefitted, they have been facilitated for obtaining Municipal Identification Number (MIN) for their food carts as well as FSSAI number for the value added products.

Innovative Solutions

Rural Women Technology Park in Warangal District, Telangana

WTP in Hasanparthy Mandal of Warangal District of Telangana came up with number of innovative technologies in weaving and handloom, banana fibre extraction, construction and habitat, metal crafts, agro and forest based processing etc. Around 2700 women were trained

and better technology have been transferred in weaving, designing and processing banana fibre extraction, developing blended fabric using banana fibre and cotton, building material production etc.

WTP is planning to run the training programmes and serve as resource centre for addressing problems and needs of women. It will help in acquiring quality raw material at reasonable cost; provide equipment for processing (weaving & construction technologies) and help in marketing of products etc. A small percentage of profits will be used for the sustainability of the centre.

Rural Women Technology Park (RWTP) under CSIR-NEIST, Jorhat, Assam prepare products to combat COVID-19

Rural Women Technology Park (RWTP) under CSIR-North East Institute of Science and Technology, Jorhat, has engaged rural women to prepare various products such as hand sanitizer, homemade mask, and liquid disinfectant to be distributed freely among family members and poor people in the nearby village to help combat COVID-19 in the area.

Rural women from the region were trained to produce homemade mask from traditional 'Gamocha' (a traditional Assamese cotton towel) by RWTP, Jorhat. Design of the home made mask has been finalized, around 150 Gamochas purchased and two sewing machines arranged (6 homemade masks can be prepared from one Gamocha). Apart from this, 200 liters of liquid disinfectant is being produced. The raw materials required for liquid disinfectant like dettol, ethanol, glycerine, essential oil have been aquired. The disinfectant will also be distributed freely among the family members and poor people in the nearby village.

The participant women prepared about 50 litres of hand sanitizer, 160 litres of liquid disinfectant which have been distributed among the 60 women participants and their family members. The RWTP also prepared posters and leaflets on 'COVID-19: Do's and Don'ts' in Assamese language for making people aware about the Corona Virus and precautionary measures.



Sewing garment using hand control

Sewing machine for differently abled persons developed by WTP at Salem, Tamil Nadu



Capacity Building

Women Technology Park at Chikiti, Berhampur

The establishment of the WTP in rural Berhampur has given new hope and faith to the people particularly women in large numbers. WTP for rural women at Chikiti, Berhampur (KIIT) has forayed into a diverse set of micro-enterprises, ranging from the production of biodegradable sanitary napkins (to address the issues of menstrual hygiene) to the production of millet-based noodles for healthy eating habits of rural populace. It helped in income generation for the women engaged in these enterprises and has thus elevated their living standards.

Private companies have sponsored and approached for products like Millet based Noodles and Incense sticks. The WTP is currently operating in the B2B model, where all the manufactured products are being

procured by private entities for marketing purposes. Women who are working in the micro enterprises are economically well-off and it has increased their social acceptance.

Establishment of a WTP as a Model Resource Centre for Aquaculture at South 24 Parganas

WTP at South 24 Parganas', West Bengal is operated by Ramakrishna Ashram. The WTP works on a number of technologies like fresh and brackish water poly culture, quality seed production, and fish feed production through available local resources, dry fish production through solar dryer facilities, and low external input bases aqua farming/integrated fish farming.

The WTP has imparted skill training to as many as 22 women SHGs wherein, 1044 women have been trained in agriculture and aquaculture practices that are scientific and sustainable. Due to the integration of the S&T component in fisheries, the income of rural women increased several folds thus empowering them immensely.

Around 200 women from fisherman community have been trained and have created 87 action SHGs. About 37 training programmes have been conducted. The fish products are sold in local market and opportunities for creating further market linkages with the help of Government agencies are being explored. Suitable marketing strategy has led to significant increase in the income for rural women.

Standardized Value - Added Jack Fruit Products for Supplements Income for Women through Jack Fruit

A WTP from Kerala has used Jack fruit for producing value added products like jam, jelly, candy, cake, peda, halwa, squash, chips, jaggery and pickle, etc. Around 150 women and 15 men have been benefited through 6 training programmes conducted at the WTP.

By the process of dehydration of jack fruit bulbs and seeds and the pulping process, as many

as 33 new value added jackfruit products were developed and have been standardized. The trained persons started 7 production units and manage these enterprises to sale the products in different outlets/markets. Out of 33, 14 products were tested and 7 were standardized. The fruit was wasted annually in huge quantities but by process not only the wastage was stopped but also income was increased significantly. About 625 people who reside in and around the WTP have been benefitted.

Skill Enhancement

Rural Women Technology Park in Coimbatore District, Tamil Nadu

In Tamil Nadu at Annur Taluk a WTP was established with technologies like water purification by using copper and herbal product for microbe free potable water, Banana fibre extraction by utilising the banana sap, coir pot from Areca nut fiber waste, community nursery, Bio briquettes manufacturing through cotton stalks (after harvesting cotton).

Around 4000 women were trained and 16 SHGs were formed by conducting 154 training programs. Close to 120 women are using WTP as incubation centre. They have three success stories to their credit– bakery, masala powder and areca nut plates production.

This led to the three times increase in income from Rs 150 to 450 per day and thus women are able to get the reliable and sustainable livelihood source.

Equity and Inclusion

- ‘Rural Woman Technology Park in Salem, Tamil Nadu’ has set an example for the society by coming up with sewing machines for differently-abled persons so that they can have equal opportunities in the growth and development of the country.
- If women masons have proficiency in their work, they lack confidence about delivering quality finished construction product such as fencing poles, water harvesting pits, cement rings, bricks, blocks, and tiles grouting. A ‘Rural Women Technology Park in Hasanparthy Mandal of Warangal District of Telangana Region, Andhra Pradesh empowered rural women masons by capacity building in construction and habitat sectors.

Training using Advanced Technologies

- Rural Women Technology Park of University of Petroleum and Energy Studies at Dehradun, Uttarakhand empowered rural women by income generation through Information and Communication Technology (ICT) assisted art and craft design. It gave exposure to rural women to ICT, through a systematic training cycle ranging from basic IT awareness, to craft design education, and progressing towards design innovation. In addition, activities like recycling waste paper (utilization of unused or leftover paper/newspaper for manufacturing pencil instead of using wood from trees and saving trees) and cultivation of aromatic and medicinal plants for which a laboratory has been established were undertaken for income generation.



Training on Bio-sand Filter Unit in Assam



- Women's Technology Park at Sonoabori Village, Bhurbandha Block, Morigaon district, Assam have trained ten women representatives on SPV service & repair, that lead to sustained improvement in the electrification of the households and also solved the problem of electricity in the region.

Empowering Rural Women

Following are some of the selected technologies which have made a great impact on the lives of the trained rural women and enhanced their livelihood:

Arecanut dehusker: The utilization of this technology has resulted in the economic and social empowerment of the beneficiaries. This technology is modified and used for processing arecanuts to reduce drudgery, processing time and cost. The technology is very efficient and women-friendly. Till now, 40 women have been trained and two units of enterprise have also been established in Udayapuram and Painikkara, districts of Kerala.

Low-cost egg incubator: The egg incubator technology generates employment opportunities for small rural farmers especially women. The poultry farm engages skilled people directly for use and maintenance of the incubator.

Banana fibre extraction: Banana fibre extraction received a lot of attention by the rural women. Mainly used by cottage industry in southern India, Banana Fibre also finds use in high quality security/ currency paper, packing cloth for agricultural produce, ships towing ropes, wet drilling cables etc.

Charcoal based Briquettes: Utilization of agro-waste generates income and employment opportunity. Value addition of charcoal-based briquette by addition of lac makes it highly valuable.

Improved Cook Stove models: The models developed were Sukhad (two pots with Chimney), Pubali and Bhagyalakshmi Solar Box Cooker, Solar Parabolic cooker, Agni Sun star Gasifier (top feed). 262 stoves were installed to improve the kitchen environment, reduced the fuel consumption, and also reduced the soot in the utensils.

Bio Sand Filter: The Bio sand Filters have an effective market to provide sustainable access to potable drinking water in remote areas, particularly with those areas with high risk of E. Coli contamination.

Production of Virgin Coconut Oil (VCO): The virgin coconut oil and natural coconut vinegar have good demand in the market which gives them an additional source of income.

Solar Food Processing: Solar food processing increases the shelf life of the farming products. The dried product can be preserved for a long time so the dried products can be released to the market during the off-season period.

Similar Technologies

Following technologies, processes and products are being taken up by more than one WTP for technology demonstration and adoption:

S.No.	Technology	Location Of WTP
1	Palletisation Technology	Technological Empowerment Of Women On Energy From Rural Biomass in Chandigarh Establishment Of The Rural Women Technology Park In KVK -II Sitapur, Uttar Pradesh Rural Women Technology Park, Annur Taluk, Coimbatore District, Tamil Nadu
2	Preparation of Cow Dung Logs	Establishment Of The Rural Women Technology Park In KVK -II Sitapur, Uttar Pradesh Empowerment Of Women In Rural Areas Through Science Based Skill Development At Kapurthala, Punjab
3	Waste Paper Recycling	Rural Women Technology Park Of University Of Petroleum And Energy Studies At Dehradun, Uttarakhand Establishment Of Rural Women Technology Park In CSIR - North East Institute Of Science & Technology, Jorhat, Assam Rural Women Technology Park On Vidhani Village (Sanganer Block, Jaipur District, Rajasthan) Rural Women Technology Park In Salem (Kandarkulamanickem Panchayat), Tamil Nadu
4	Sanitary Napkin Unit	Establishment Of Rural Women Technology Park, For Women Empowerment Through Technological Approaches at Chikiti, Odisha Development Of Women Technology Park For Empowerment Of Rural Women In Selected Villages Of Fatehgarh Sahib, Punjab Using Eco-Friendly Innovation Empowering Rural Women Through Various Technology Based Livelihood Opportunities Under Women Technology Park In Tripura Rural Women Technology Park, Annur Taluk, Coimbatore District, Tamil Nadu

S.No.	Technology	Location Of WTP
5	Mushroom Cultivation	Rural Women Technology Park (Coimbatore District Tamil Nadu) Establishment Of Rural Women Technology Park, For Women Empowerment Through Technological Approaches at Chikiti, Odisha Women Technology Park In Tumkur District, Karnataka Empowerment Of Women In Rural Areas Through Science Based Skill Development At Kapurthala, Punjab
6	Nursery	Rural Women Technology Park For The Holistic Empowerment Of Women In Rural And Semi Urban Areas Of Idukki, Kottayam And Pathanamthitta Districts Of Kerala Through Agro- Allied Micro And Small Enterprise Development Rural Women Technology Park, Annur Taluk, Coimbatore District, Tamil Nadu Enhanced Livelihood Of Women In Selected Villages Of Karnataka Through Green Technologies(WTP) By FRLHT, Bengaluru, Karnataka Rural Women Technology Park Of University Of Petroleum And Energy Studies At Dehradun, Uttarakhand
7	Leaf Plates	Development Of Women Technology Park For Empowerment Of Rural Women In Selected Villages Of Fatehgarh Sahib, Punjab Using Eco-Friendly Innovation Empowering Rural women Through various Technology based Livelihood Opportunities under women Technology park At Tripura Women Technology Park In Tumkur District, Karnataka Rural Women Technology Park, Annur Taluk, Coimbatore District, Tamil Nadu
8	Water Quality Management	Women's Technology Park At Sonoabori Village, Bhurbanda Block, Morigaon District, Assam Integrate Livelihood Technologies As Women Technology Park For Tribal Women In Paderu, Visakhapatnam District, Andhra Pradesh Rural Women Technology Park, Annur Taluk, Coimbatore District, Tamil Nadu
9	Application of ICTs	Rural Women Technology Park Of University Of Petroleum And Energy Studies At Dehradun, Uttarakhand Setting Up Of Rural Women Technology Park At Bansani, Varanasi (Target Block - Baragaon, Pindra & Haruha In District Varanasi, Uttar Pradesh) Centre For Enhancement Of Livelihood And Enterprise Models For Rural Women (Celem) In Sahoolagiri Taluk, Hosur, Tamil Nadu

WTPs Across the Country

Completed WTPs

S.No.	Title	Location
1	Rural Women Technology Park In Kovvada Village (Bhimavaram Block) West Godavari District, Andhra Pradesh	Shri Vishnu Engineering College For Women, Department Of Mechanical Engineering, Vishnupur, Kovvada Village, Bhimavaram
2	Development & Extension Of Technologies To Improve Livelihood Of Small Farm Holders At Alamanda, North Coastal Of Andhra Pradesh	Gitam University, Gandhinagar, Rushikonda, Vishakhapatnam, Andhra Pradesh
3	Rural Women Technology Park In Cherlopalli Village, Andhra Pradesh	Institute Of Pharmaceutical Technology, Sri Padmavati Mahila Visvavidyalayam, Tirupati
4	Women's Technology Park At Sonoabori Village, Bhurbanda Block, Morigaon District, Assam	Resources Centre For Sustainable Development, Guwahati #20, Bye Lane-12 (West), Rajgarh Road, Guwahati, Assam
5	Technological Empowerment Of Women On Energy From Rural Biomass	Punjab State Council For Science And Technology, MGSIPA Complex, Sector-26, Chandigarh
6	Technological Interventions In Clean , Meat, Milk, Fish Production And Socio Economic Empowerment Of Rural Women Through Training On Value Added Livestock Products	Division Of Livestock Products Technology SKUAST, R.S.Pura, Jammu & Kashmir
7	Financial Assistance For The Project "Rural Women Technology Park For Dissemination Of Technology At Raidhi Block Of Gumla District Jharkhand"	Department Of Women's Section, Society For Rural Industrialization, Bariatu, Ranchi, Jharkhand
8	Women Technology Park In Tumkur District, Karnataka	Technology Informatics Design Endeavour (Tide) No.19, 9th Cross, 6th Main Malleswaram Bangalore
9	Enhanced Livelihood Of Women In Selected Villages Of Karnataka Through Green Technologies	Foundation For Revitalization Of Local Health Traditions (FRLHT), Institute Of Ayurveda & Integrative Medicine (IAIM), 74/2, Jarakabande Kaval, Post Attur, Via Yelakhanka, Bangalore
10	Standardized Value - Added Jack Fruit Products For Supplements Income For Women Through Jack Park	Santhigram Chappath, Kazhuvur, P.O, Pulluvilla, Thriunvanthapuram, Kerela
11	Rural Women Technology Park For The Holistic Empowerment Of Women In Rural And Semi Urban Areas Of Idukki, Kottayam And Pathanamthitta Districts Of Kerala Through Agro- Allied Micro And Small Enterprise Development	Integrated Community Health & Development Peermade Development Society - Pb No.11, Peermade, Idukki District, Kerala

S.No.	Title	Location
12	Rural Women Technology Park In Ten Village Of Parappa Block Of Kasaragod District, Kerala State	Malabar Social Service Society Sreepuram, Pallikunnu P.O. Kannur Kerela
13	Women Technology Park, Wardhan District, Maharashtra State	Magan Sangrahalaya Samiti Kumarappa Marg, Wardha, Maharashtra
14	Rural Women Technology In Patan Block Of District In Maharashtra	Shramjivi Janata Sahayyak Mandal 127/1-A, Mangalwar Peth, Satara
15	Tribal Women Technology Park, Senapati District, Manipur	Krishi Vigyan Kendra(Kvk) Sylvan, P.O. Kangpokpi, B.P.O.- Hengbung, Senapati District, Manipur
16	Establishment Of Rural Women Technology Park, For Women Empowerment Through Technological Approaches	Technology Business Incubator (TBI), Campus 11, KIIT University, Bhubaneswar, Odisha
17	Rural Women Technology Park At Village Digod Block Sultanpur In Kota District Of Rajasthan	Society For Environment & Development, Gramin Vigyan Kendra (GVK), Village-Digod, District-Kota, Rajasthan
18	Rural Women Technology Park On Vidhani Village (Sanganer Block, Jaipur District, Rajasthan)	Department Of Biotechnology, JECRE University Ramchandrapura, Sitapura Industrial Area Extn Near Mahatma Gandhi Hospital, Vidhani Village, Jaipur, Rajasthan
19	Women Technology Park	Banasthali Vidyapith, P.O. Banasthali Vidyapith, Rajasthan
20	Rural Women Technology Park, Pollachi	Dr. Mahalingam College Of Engineering And Technology, Udumalai Road, Pollachi
21	Rural Women Technology Park (Sirucvani Area - Thondamuthur Block - Coimbatore - Tamil Nadu)	School Of Engineering, Amrita Vishwa Vidyapeetham, Amrita Nagar, Coimbatore, Tamil Nadu
22	Rural Women Technology Park (Coimbatore District Tamil Nadu)	Department Of Biotechnology, PSG College Of Technology, Coimbatore
23	Centre For Enhancement Of Livelihood And Enterprise Models For Rural Women (Celem) In Sahooogiri Taluk	Er. Perumal Manimekalai College Of Engineering,, 17th Km Hosur-Krishnagiri Highways, Koneripalli, Hosur-635117, Krishnagiri District, Tamil Nadu
24	Rural Women Technology Park, Annur Taluk, Coimbatore District, Tamil Nadu (Covering Block Distt. State)	PSGR Krishnammal College For Women, Peelamedu, Coimbatore, Tamil Nadu
25	Rural Women Technology Park In Salem (Kandarkulamanickem Panchayat), Tamil Nadu	Department Of Computer Science And Engineering Computer Science And Engineering, Sona College Of Technology, Salem

S.No.	Title	Location
26	Rural Women Technology Park At Kacharam Village, Shamshabad Block, Rangareddy District, Telangana State	Vardhaman Engineering College (Vardhaman Educational Society) Kacharam, Shamshabad, Hyderabad, Andhra Pradesh
27	Rural Women Technology Park At Vishnupur Village, Narsapur Mandal, Medak District, Telangana	Freshman/Basic Sciences & Humanities Vishnupur, Narsapur, Medak, Telangana
28	Rural Women Technology Park In Hasanparthy Mandal Of Warangal District Of Telangana Region, Andhra Pradesh	Department Of Mechanical Engineering, SR Engineering College, Ananthasagar, Hasanparthy Warangal, Andhra Pradesh
29	Setting Up Of Rural Women Technology Park At Bansani, Varanasi (Baragaon, Pindra & Haruha In District Varanasi, Uttar Pradesh)	Bansani, Varanasi (Target Block - Baragaon, Pindra & Haruha In District Varanasi, Uttar Pradesh)
30	Establishment Of Rural Women Technology Park In Baghera Village, Karchhana Block, Allahabad District, Uttar Pradesh	Bhartiya Mahila Gramodyog Sansthan, Allahabad, Uttar Pradesh
31	Establishment Of The Rural Women Technology Park In KVK -II Sitapur (U.P)	KVK-II Village - Katia Post-Ulra, Block - Biswan , Sitapur, Uttar Pradesh
32	Rural Women Technology Park Of University Of Petroleum And Energy Studies At Dehradun, Uttarakhand	Computer Science & Engineering Department, Centre For Information Technology, University Of Petroleum And Energy Studies, Dehradun
33	Establishment Of A Model Resource Centre For Aquaculture At Women Technology Park, Sagar, South 24 Parganas	Vivekananda Institute Of Biotechnology, Sri Ramakrishna Ashram Nimpith, P.O. Nimpith Ashram, Dist. S.24, Parganas West Bengal

WTPs Across the Country

Ongoing WTPs

S.No.	Name of the WTP	Location of WTP
1	Integrate Livelihood Technologies As Women Technology Park For Tribal Women In Paderu, Visakhapatnam District, Andhra Pradesh	Department Of Home Science, St. Joseph's College, Gnanapuram
2	Establishment Of Rural Women Technology Park In CSIR - North East Institute Of Science & Technology, Jorhat, Assam	CSIR-North East Institute Of Science & Technology, Jorhat Assam
3	Bolmoram Technology Resource Centre Cum Knowledge And Innovation Park, East Garo Hills, Meghalaya	State Council Of Science, Technology & Environment, Meghalaya, Nongrim Hills, Shillong
4	Enhancement Of Livelihood Options For Rural Women In Aizawl, Mizoram	Mizoram Science, Technology & Innovation Council, Aizawl, Mizoram
5	Development Of Women Technology Park For Empowerment Of Rural Women In Selected Villages Of Fatehgarh Sahib, Punjab Using Eco-Friendly Innovation	Desh Bhagat University, State Highway, 12A, Amloh Road, District Fatehgarh Sahib, Mandi Gobindgarh, Fatehgarh Sahib, Punjab
6	Empowerment Of Women In Rural Areas Through Science Based Skill Development	Pushpa Gujral Science City Jalandhar- Kapurthala Road , Kapurthala, Punjab
7	Empowering Rural Women Through Various Technology Based Livelihood Opportunities Under Women Technology Park	Tripura State Council For Science & Technology, Vigyan Bhawan .1st Floor, Pandit Nehru Complex Gorkhabasti, Kunjaban Agartala, Tripura
8	Livelihood Generation And Improvement For Women Entrepreneurs In Small Scale Fruits And Vegetable Farming And Post-Harvesting Management	Indian Institute Of Technology, Mandi, Himachal Pradesh
9	To Establish Women Technology Park For Demonstrative Model Of Technologies For Livelihood Enhancement Of Tribal Women In Narharpur Block, Kanker (C.G)	Madhya Pradesh Vigyan Sabha Gyanvigyanparisar, Sagoni Kalan, Raisen Road, Bhopal, Madhya Pradesh
10	Women Technology Park (WTP) For Capacity Building And Entrepreneurship Development	CSIR-National Metallurgical Laboratory, Burmamines, Jamshedpur
11	Development Of Low Cost Polythene Substituted Biodegradable Fabric From Nettle And Lyocell Fiber For Livelihood Enhancement Of Women	Unnati Mahila Udhamita Avam Prashikshan Samiti, Dehradun, Uttrakhand
12	Design And Development Of Solar Photovoltaic Powered Cane Slicing Machine	National Institute Of Technology Silchar, Assam
13	Women Technology Park (WTP) For Rural Tribal Women Of North-East Through Technological Intervention	State College Of Teacher Education, Kohima, Nagaland

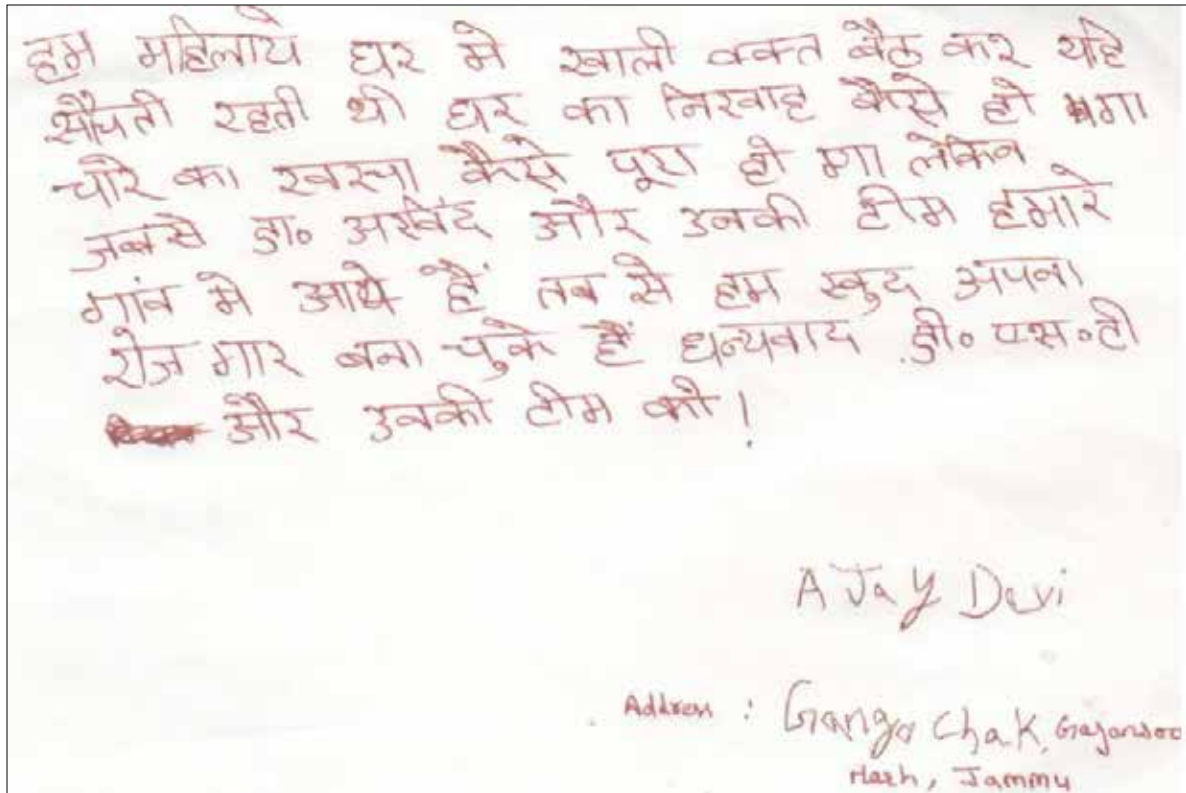
Testimonials

Feedbacks from Trainee at Women Technology Park at University of Petroleum and Energy Studies, Dehradun, Uttarakhand

“ It was hard to believe for us that we are so talented. A number of delegates and research teams observed and analysed our work. Their words were so supportive and inspiring that we feel blessed and proud. We did experiments using herbal products like seeds, bamboo, etc. and it really improved our work and products. Recently, we received an order of 2000 jewellery products from USA but because of smaller team size, we had to refuse it. We need to expand our team. We got suggestions from some of the visitors to market and promote our products through Amazon. We need to look in that way also. We feel very proud and recognized that people are looking to name our team now. This could have been possible because of the skills gained through this project.”

- Najma, Local Entrepreneur and Trainee in ICT-assisted art and craft technology at Women Technology Park at University of Petroleum and Energy Studies, Dehradun, Uttarakhand

Feedback from Trainee in Value added products from milk, meat and fish products at Women Technology Park at Deoli village, Bishnah Block, operated by SKUAST, Jammu and Kashmir





“ The Committee believes that Women Technology Park (WTP) set up with the help of government agencies would be a boon for the rural poor. Exposing women to latest technology and entrepreneurial ideas involving demonstration and dissemination of rural technologies related to weaving, metal art ware, banana fibre extraction, construction and habitat services, agro and forest-based processing technologies can be an economic and social empowering measure catering to the dynamic needs of women empowerment, grand goal of our constitutional philosophy. The Committee recommend that more Women Technology Parks may be set-up in diversified sectors catering to regional needs and spread across the country to empower women and make them financially self-sustainable. Demonstration of feasible projects and transfer of proven technologies to the society would improve the livelihood and quality of life of rural women by imparting necessary entrepreneurial skills.

- Committee on Empowerment of Women (2018-19), Government of India



विज्ञान एवं प्रौद्योगिकी विभाग
DEPARTMENT OF
SCIENCE & TECHNOLOGY



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