



---

## Promoting Innovations in Individuals, Start-ups and MSMEs (PRISM)

- 1: Preamble
- 2: Other Activities





# Promoting Innovations in Individuals, Start-ups and MSMEs (PRISM)

## 1. PREAMBLE

Department of Scientific and Industrial Research (DSIR) has launched a new programme viz. Promoting Innovations in Individuals, Start-ups and MSMEs (PRISM) during 12<sup>th</sup> five year plan. The programme aims at to support individual innovators having original ideas to convert them into working models, prototypes etc. It also aims at supporting autonomous institutions or organizations or registered society for developing state-of-art new technology solutions aimed at helping MSME units in industrial clusters. The department has supported **thirteen (13)** new projects during 2015-16 (1<sup>st</sup> January – 31<sup>st</sup> March, 2015). As a part of its commitment to complete on-going spill-over projects supported under erstwhile TePP, the department has successfully completed **ten (10)** projects during the period (**Annexure-2**). The details of the completed projects supported under erstwhile TePP/PRISM are given in Annexure. Further, details of some of the completed TePP projects/on-going PRISM projects are given below:

### **Automated garment dyeing, chemical washing and effluent treatment wet processing machine for cotton textiles and cotton garments,**

Mr. Y. Jahir Hussain of Madurai has successfully developed an automated dyeing and effluent treatment processing machine for cotton textiles

units supported under erstwhile TePP scheme. The innovation enables the same machine to perform dyeing process and treat the effluent water automatically. The treated water can be used further in the dyeing process. The said automated ETP machine will be very useful for small and medium dyeing industries across the whole country.

### **Low cost sequence Embroidery Machine for productivity enhancement in Zari and Zardozi work**

Mr. Ashrafuddin Ahmad of Kokata has developed a low cost sequence embroidery machine for productivity enhancement in Zari and Zardozi work. The project was scouted and mentored by TOCIC (TePP Outreach cum Cluster Innovation Centre) at CSIR-CMERI, Durgapur under PRISM scheme. The proposed low cost embroidery machine aims at to reduce the drudgery involved in the process and also helps in better productivity, which would help Zari and Zardozi manufacturing cluster / sector immensely. The innovative assembly that have enabled use of a standard sewing machine body and have accommodated four different sub-units to perform four different sub-tasks i.e. mechanical bobbin thread winder, Zari conveying mechanism, Zari sequencing mechanism, Zari cutting machine etc. simultaneously. The developed machine make use of materials and systems available off-the-shelf, so that product costs can be brought down and would

be affordable to small industries especially Zari and Zardozi manufacturing sector.



*Embroidery Machine*

### **Biodegradable Sanitary Napkin for Women**

Ms Shiva Spurthi Gummadala of Hyderabad, an women innovator scouted through TOCIC (TePP Outreach cum Cluster Innovation Centre) at IIT, Kharagpur with financial support from DSIR under PRISM Scheme. The innovator has developed a biodegradable sanitary napkin, in which the transfer layer (top sheet) and the barrier layer (bottom sheet) are made of biodegradable material incorporating a new design with a slit pattern. The biological material used for this napkin is the leaf of the climber plant, *Bauhinia vahlii*. The ew material is biodegradable and environment friendly. It is cheaper than existing sanitary napkins. The performance of said biodegradable sanitary napkin has been found satisfactory performance in terms of absorption, prevention of leakage and ease of use and at par with the conventional products available in the market. A provisional patent has also been filed by the innovator (application no. 615/Kol/2013).



*Biodegradable Sanitary Napkin*

### **Transient 3D framework for seeding and expansion of Cells towards delivery *in vivo* and therapeutics**

Dr. Santanu Dhara of Kharagpur has been scouted and mentored by TOCIC at IIT Kharagpur with financial support from DSIR under PRISM scheme . Fish scale is a by-product of fisheries, is generally thrown into the environment and thus causes serious environmental pollution. In this project, the innovator is developing collagen using fish scale through an innovative technology, which will be used for 3D framework/matrix. Collagen being a major component of extracellular matrix (ECM) is widely used in cell expansion and delivery in the field of regenerative medicine and biomedical applications. The collagen from this fresh water fish origin will offer higher thermal stability similar to mammalian origin for various biomedical products to improve healthcare delivery in a cost effective way. The project is in progress. A patent has been filed by the innovator on ,”a process for production of collagen and by-products from fresh water fish origin and application thereof” (Patent application no. 212/KOL/2011).



*Collagen Sponge*

### **Geyser Daan**

Mr. Bashir Ahmad Wani from Srinagar(J&K) with the financial support from DSIR under PRISM programme has developed an innovative water heating system called “Geysers-Daan”. The innovator is co-vented and mentored by TOCIC at University of Kashmir (J&K). It has a double-walled ‘Chullah’ or fireplace made of copper which is capable of being used as a traditional ‘Chullah’ and simultaneously for heating of water for domestic use. The cold water is circulated within the double-walled hollow space of the ‘Chullah’. Once the chullah is ignited and firewood is burnt into it, the chullah gets heated up which in turn heats up the cold water. There is an inlet through which water enters inside the hollow chamber of chullah and after getting heated in the chamber, exits through the outlet for end use. The main advantages of the project are: Low cost, No need of electricity, Multiple functions, Easily available and handy, Easy installation and maintenance, Reduces the use of electricity and gas for warming the water for domestic use.

### **Pesticide Mixer cum Sprayer Agricultural Pump**

The innovator Mr. Zahoor Ahmad Rather of Srinagar (J&K) has developed a Pesticide Mixer cum Sprayer

Agricultural Pump. The proposed innovative machine will replace the traditional system of spraying which is done in orchards, crop fields and in vegetable fields. As far as the traditional system is concerned, three to four men are required for spraying. Besides it is difficult to maintain the accuracy in the ratio of water and pesticides. The traditional system is slow and time-consuming.

The proposed Pesticide Mixer cum Sprayer Agricultural Pump can be operated by a single person. The accuracy will remain almost 100% (water: pesticide ratio). The system can run at high speed depending on the user’s need. Therefore, the farmer/user will complete his task quickly and in good manner. It is portable and easy to use as compared to traditional system. So in every respect it is better than the traditional system of spraying. It can be used in spraying of pesticides and aerial minerals (e.g., calcium, magnesium etc. spray) in good proportion.

### **Mechanical Hoe**

Mubashir Nabi from Srinagar with the financial support from DSIR under PRISM programme has developed a simple portable and motorized device which can be used for hoeing Saffron and other such crops. It consists of three parts; Motor (Small portable petrol engine), Shaft cable and circular hoe. The function of motor is to rotate the shaft cable. The shaft cable rotates in a shaft cable cover, which in turn rotates the circular hoe.

Saffron (*Crocus Sativa*) is one of the famous and golden-priced crops grown in Kashmir. Hand hoeing is done several times during the year to keep the dry land soft for the crop. Hand hoeing is also used for several other crops/vegetables cultivated largely in Kashmir. The practice of weeding is very hectic and time-consuming mainly in the field of Saffron and Chilies. With the use of such device, this practice can become easy and less time-consuming. The innovator has been mentored and scouted by TOCIC at University of Kashmir (J&K).





## 2. OTHER ACTIVITIES

**2.1** To expand the reach of PRISM among common masses, one(1) TePP Outreach cum Cluster Innovation Centre(TOCIC) has been set up by DSIR at University of Madras, Chennai.

**2.2** PRISM/TePP participated in the following events during the year to sensitize academia,

disseminate information on PRISM to the larger mass of the populace , network partners and impact generation among common masses:

*102<sup>nd</sup> session of Indian Science Congress-2015 Exhibition under the theme “Science & Technology for Human Development” (January 3-7, 2015) at University of Mumbai, Mumbai*

