

## TePP e-NEWS

(Technopreneur Promotion Programme, an initiative of DSIR, Govt. of India)

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*TePP - India's largest open innovation network program*



TePP provides an opportunity to innovators to fail. Picking winners is not an objective- the market does it. TePP advocates a new philosophy – failure is not a sin. We share dreams of innovators and celebrate their success.

----- A.S. Rao

Advisor to the Ministry of Science & Technology

### Training Program at SPJIMR

The 5 day training program from 2nd to 6th September was attended by TePP innovators, network partners and innovation managers, numbering about 40. The senior faculty had prepared their lectures keeping in mind the background of the participants. The take home for innovators was - taking innovation to market requires a combination of Technology potency and Business advantage.



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### TUC activities at Sri Padmavati Mahila Visvavidyalayam (SPMVV)

The TePP Outreach Centre (TUC) of SPMVV, Tirupati (A.P) was inaugurated on 22<sup>nd</sup> November 2008 by Dr.A.S.Rao Advisor, TePP Network, Department of Scientific and Industrial Research, Ministry of Science and Technology, New Delhi. The TePP Outreach Centre at SPMVV organised the 92<sup>nd</sup> Review cum Orientation Programme for TUC and TSC meeting in Tirupati on 2<sup>nd</sup> and 3<sup>rd</sup> February 2009. The meeting was attended by DSIR officials, TUC Coordinators from all over India. This was successfully coordinated by its organisers; Prof.D.Sarada, Coordinator and Dr.N.Rajani, Co-coordinator.



### Excerpts taken from the magazine DARE Vol 2/Issue 06/Mar 09:

#### **Dr. A.S. Rao, Advisor in the Ministry of Science & Technology, on the evolving structure of TePP:**

“Three year back we took a decision to convert it into a network program. Now there are 28 TePP Outreach Centres. But TePP will not grow in one direction. Soon TePP Network will become TePP Open Innovation Network. There will be multiple inflows and outflows from the innovation funnel”. The TePP innovation funnel articulates the process of upgrading innovators to entrepreneurs.

An innovator gets through phase-1 with the support provided by the incubator/ TePP’s Outreach Centre. At every stage from concept, design,

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IPR, planning, technical assistance, business development, funding for venture, infrastructure support, networking and learning tools, the incubator lives through the innovator's creative phase.

TePP's screening committee (TSC) has a critical role to play in phase-I. This team of experts comprises scientists, heads of B-schools such as ISB and SPJIMR, educationists, IIT professors and senior management members of NABARD and NID.

Micro budget innovations and properly-evaluated proposals coming from TePP outreach centres can be recommended by TSC without reappraisal. Keeping in mind the end objective of transforming innovators to technopreneurs, TSC manages TePP network and carry out screening & evaluation within time limits.

**Shri. RMP Jawahar, Executive Director of TREC- STEP**, one of oldest incubators in India says that he believes he will achieve a milestone only after TREC-STEP incubates 10 billion dollar ventures. "I am working with 17 innovators currently and we already have 10 great products", he says.

With 28 such incubators showing this level of commitment, TePP's Open Innovation Network has the capacity to bridge India's innovation gap.

### TUC activities at VIT-Technology Business Incubator



The second TePP Monitoring Committee meeting was held at the TUC, VIT-TBI on the 19<sup>th</sup> of January, 2009.

The committee witnessed presentations made by 7 innovators seeking support under MicroTePP

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Members present in the TMC meeting were Dr. A.S. Rao, Mr. K.S. Krithivasan, AGM, BHEL, Ranipet, Dr. S. Narayanan, Director, School of Mechanical and Building Sciences, Dr. K. Chidambaram, Director, Student's Welfare, Mr. R. Natarajan, Professor, School of Building & Mechanical Sciences and Mr. A. Balachandran, General Manager, TBI from the VIT University.



### Innovation Funding Camp at VIT-TBI:

Dr. A.S. Rao addressed the innovators from in and around Vellore. About 70 innovators participated in the Innovation Funding Camp that was organized on the 19th of January, 2009 at VIT University. The Chancellor, VIT University, Shri. G. Viswanathan presided over the inaugural session and the Vice-Chancellor, Dr. D.P. Kothari felicitated the gathering.



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TePP beneficiaries, Mr. R Balajee. & Mr. Radha Kamalakaran sharing their experience.

The video of Dr. A.S. Rao's address can be accessed by clicking on the link:  
<http://www.youtube.com/watch?v=D4OpM7wZURQ>

### Innovators' Meet 2009 at Durgapur

Innovators' Meet 2009 was organized on the 25<sup>th</sup> & 26<sup>th</sup> of March, 2009 by TUC- CMERI, Durgapur to offer an assistive portal to innovators through a two-day intensive interactive meet with experts in different domains of mechanical engineering and allied disciplines.



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### Technopreneur Promotion Programme (TePP): Investing in Innovation

A. S. Rao,  
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*The success of Silicon Valley start-ups has led many countries to look at the beneficial impact of start-ups in creating jobs, improving economic standard of region, providing cutting edge to competition of nation. Not many of the attempts to transplant this typical US system in alien environments succeeded. TePP program of Government of India has taken a route of organic growth with emphasis on inclusive innovations for inclusive growth.*

Technopreneur Promotion Programme (TePP) is India's largest network program supporting independent innovators. The network, with its 30 outreach centers spread across the country, provides grants, technical guidance and mentoring support to independent innovators. The purpose of this support is to enable innovators emerge as entrepreneurs by incubating their ideas and enterprise. The support is provided in 2 distinct phases- innovation incubation in first Phase where maximum support is INR15 lakhs (US\$30,00) and toward enterprise incubation in second phase where the cap is INR45 lakhs (US\$ 90,000). Since the time of its inception and till date 250 innovations have been supported under TePP. It is positioned as pre-seed fund for start-ups.

#### **Process**

That innovation is a risky business is a well documented fact. In spite of rigorous assessment, majority of the projects fail to earn expected return. For example in India, so far only 15-20% of the assisted projects have become successful. In the Guide to Venture Capital in Asia (published by AVCJ Holding Ltd.) the common risk factors have been identified as follows:

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- A change in industry growth via assumptions,
- A change in competitive pricing via assumptions,
- Difficulties in achieving product development schedule,
- Difficulties in obtaining parts and raw materials,
- A change in market structure (e.g. a new entrant or a new technology),
- A change in the availability of appropriately priced and trained labour.

The entire diversity of risk factors associated with innovation can be grouped into nine distinct categories (see Table 1). All these risks have to be addressed through a due diligence process by the funding agencies. Venture Capitalists spend an enormous amount of time and money on this due diligence process. This is the reason they process fewer cases to economize their efforts. The problem gets complicated when government agencies are involved in financing small innovations as is the case with TePP. The numbers can become overwhelming, creating a situation where neither best practices of VCs nor those of micro finance groups can be adopted. This makes it necessary to develop new mechanisms and processes.

Table1 Common Risks Associated with Innovation			
Risk	Component	Risk	Component
<b>Promoter Risk</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Integrity / honesty of the entrepreneur / promoter</li> <li><input type="checkbox"/> First generation entrepreneur</li> <li><input type="checkbox"/> Lack of experience in related field</li> <li><input type="checkbox"/> Lack of contacts with resource persons</li> <li><input type="checkbox"/> Lack of experience about                             <ul style="list-style-type: none"> <li><input type="checkbox"/> Market</li> <li><input type="checkbox"/> Technology</li> </ul> </li> </ul>	<b>Financial Risk</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Capital market situation (e.g. lack of exit opportunities)</li> <li><input type="checkbox"/> Current leverage ratio not in par with industry average</li> <li><input type="checkbox"/> Growth prospect of the company</li> <li><input type="checkbox"/> Foreign exchange risk</li> <li><input type="checkbox"/> Problem with working capital; Liquidity problem</li> <li><input type="checkbox"/> Expected rate of return</li> <li><input type="checkbox"/> Lack of understanding of standard financial procedures</li> </ul>
<b>Product Risk</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Development stage of product</li> <li><input type="checkbox"/> Product life cycle</li> <li><input type="checkbox"/> Risk of reverse engineering</li> <li><input type="checkbox"/> Manufacturing complexities</li> <li><input type="checkbox"/> Number of constituent technologies</li> </ul>	<b>Implementation / Operational Risk</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Manufacturing complexities</li> <li><input type="checkbox"/> Capability of producer / organisation</li> <li><input type="checkbox"/> Manufacturing set up</li> <li><input type="checkbox"/> Commitment from manufacturing</li> <li><input type="checkbox"/> Unavailability of skilled work-force</li> <li><input type="checkbox"/> Maintenance problem</li> <li><input type="checkbox"/> Lack of contacts with resource persons</li> <li><input type="checkbox"/> Problem in arranging additional fund</li> </ul>
<b>Technological Risk</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Availability of superior technology</li> <li><input type="checkbox"/> Unpredictable technology development</li> <li><input type="checkbox"/> Technology life cycle</li> <li><input type="checkbox"/> Investment requirement for assimilation</li> <li><input type="checkbox"/> Lack of organisational capability to assimilate</li> <li><input type="checkbox"/> Source of technology / Goodwill of supplier</li> <li><input type="checkbox"/> Level of technology (high or low)</li> </ul>	<b>Market Risk</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> New users; uncertainty in market acceptance</li> <li><input type="checkbox"/> Market growth rate</li> <li><input type="checkbox"/> Competitors</li> <li><input type="checkbox"/> Substitute products</li> <li><input type="checkbox"/> Potential entrants</li> <li><input type="checkbox"/> Huge marketing expenditure</li> <li><input type="checkbox"/> Unorganised sector</li> <li><input type="checkbox"/> No assured market</li> </ul>
<b>Organisational Risk</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Motivation of employees</li> <li><input type="checkbox"/> Employee turnover</li> <li><input type="checkbox"/> Dependence on few workers</li> </ul>	<b>Environmental Risk</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Changes in Government policy</li> <li><input type="checkbox"/> Lack of understanding about regulations</li> <li><input type="checkbox"/> Pollution / Hazards</li> </ul>
<b>Strategy Risk</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Loosing competitiveness</li> <li><input type="checkbox"/> Unrelated diversification</li> </ul>	<b>Other Risks</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Availability of raw material</li> <li><input type="checkbox"/> Legal barriers - piracy / patent etc.</li> </ul>

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TePP developed a unique framework in a network mode and contribution by various players as illustrated by deal flow for 2007-08. Cumulatively, TePP accessed around 7500 ideas, evaluated 1650 proposals and supported 240 innovations. This is depicted through the TePP Innovation Funnel diagram given below.

TePP pioneered network movement to make the support accessible to all eligible innovators and to add value in screening and monitoring. The role of various network players is shown in Table 2. Modern communication tools are used to get all the stakeholders involved, chief among them are 'TePP blog' and group page 'Friends of Indian Innovators' on LinkedIn.

### Conclusion

Many new financing mechanisms tend to create a lot of hype but fail to deliver on the lines of the expectations they whip up. There are many claimants for a success but few own up to failures. But nevertheless, it is a hard fact that only one out of eight programmed innovations succeeds to achieve their envisaged targets. TePP deals with un-programmed innovations of independent innovators, garage scientists and offers them that crucial "*freedom to fail*". The support and services provided by TePP Network may appear small, but given the fact that they reach the innovator at a very early stage, they help in giving a tangible shape to big dreams of small innovators.

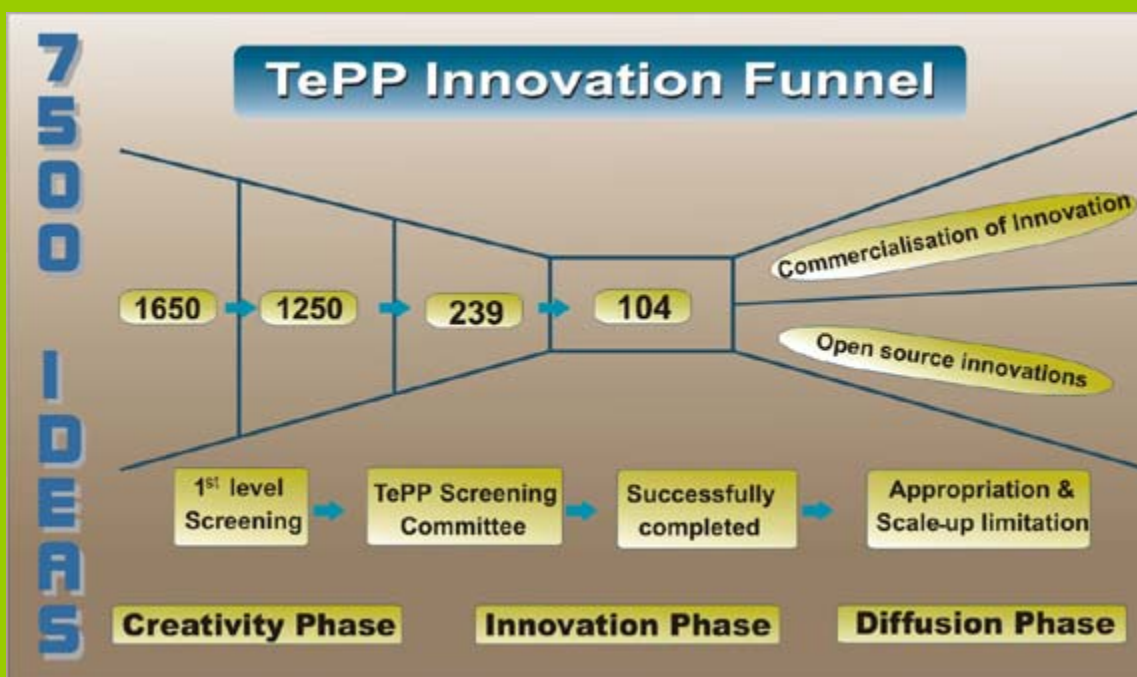


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Table 2 The Role of Network Partners	
Activity	Network Role
Spark	The idea spark comes from the innovator. The network accessed about 800 ideas in 2007-8 by publicity/ advertisement and road shows.
Shapers	The ideas need to be refined and 18 TUCs have mentored the innovators by carrying out counseling and initial screening. 200 complete proposals emerged from out of the 800 ideas.
Sponsors	These 200 proposals were distributed among DSIR & TIFAC officials and they became sponsors of innovators in the Ministry of Science & Technology.
Sounding Board	15 external experts of TePP Screening Committee evaluated these 200 proposals and recommended 50 for approval.
Specialists	Technical experts evaluated the 200 proposals. TePP Experts not only assess proposals but also get involved in implementation. For direct interaction with innovators, names and addresses of 93 Technology Angels is posted on DSIR web site.

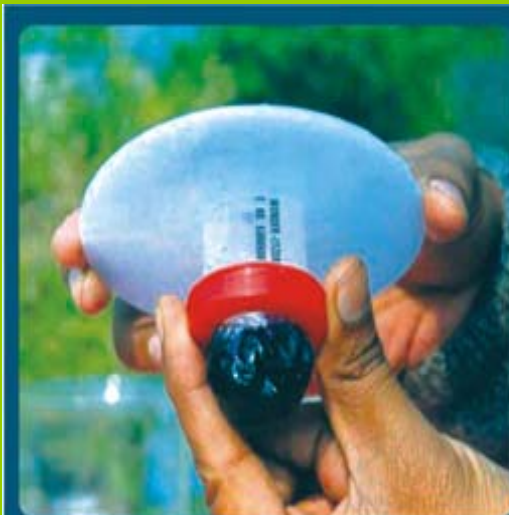


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### Illustrations



An illustrative example is **SMALL WONDER-LYZER**, a technology breakthrough invention for biotechnologists developed by innovator **Dr. Parikshit Bansal** of the National Institute of Pharmaceutical Education and Research (NIPER). The device is primarily meant for carrying out dialysis or desalting of proteins i.e. removal of salts from proteins, usually after the initial step of salt precipitation, which is a widely used, low-cost method for protein purification. The technology breakthrough in the invention lies in the remarkably simple mechanism of sample loading and removal, which none of the existing commercially available devices is able to offer worldwide. Unlike existing devices, the present device does not involve use of any threads, clamps or syringes during use.

The innovator obtained a US patent and floated a start-up firm to take up manufacture in Chandigarh.

### Reference:

1. TePP Blog: <http://tepp-innovators.blogspot.com/>
2. Rao, A. S., Financing Innovations for the Bottom of the Pyramid Market (June 5, 2007). Available at SSRN: <http://ssrn.com/abstract=1015494>
3. Biotechnews, August 2008, <http://www.biotechnews.in/>

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