Report to the People

THIRD YEAR

NATIONAL INNOVATION COUNCIL
GOVERNMENT OF INDIA
November 2013

Foreword

India today is in the midst of the most exciting time and most challenging of times. The forces of technology, modernisation, urbanisation, and our unique demographic dividend are shaping the future course of the country and paving the way for unprecedented development. However, as we move on this trajectory of development and growth, we also need to be mindful that we are creating a society that is inclusive and equitable. India has a huge reservoir of unmet needs in critical areas such as health, education, agriculture, energy which is depriving large sections of our populations from aspiring to opportunities that would transform their future for the better. It is in this context that innovation matters in India. Innovation that can offer solutions to existing problems where conventional approaches have failed to deliver results holds the key to a more inclusive development model – a model that can enhance access, affordability, service delivery and improve the lives of the people at the bottom of the economic pyramid.

The National Innovation Council was set up by the Honourable Prime Minister of India in 2010 to create a roadmap for transforming the country into an innovation nation, with a focus on inclusive growth. In keeping with the Government's commitment of turning the next decade into a 'Decade of Innovation', we have been working for the last three years on several initiatives to improve the innovation capabilities in the country, with a focus on empowering the bottom half of the population. Through our activities, the aim has been to stimulate the innovation ecosystem to improve productivity, efficiency, accessibility, affordability and service delivery. We are delighted to present the third annual 'Report to the People' 2013 of the National Innovation Council (NInC) which highlights these activities and initiatives and demonstrates the work that the present Government has undertaken to foster an inclusive model of innovation and growth.

The National Innovation Council is focused on encouraging and facilitating the creation of an Indian Model of Innovation by looking at five key parameters: Platform, Inclusion, Ecosystem, Drivers and Discourse. The aim is to re-define innovations to go beyond formal R&D parameters and look at innovation as a broader concept that breaks sectoral silos and moves beyond a high-tech, product-based approach to include organisational, process, delivery models and service innovation. The core idea is to innovate to produce affordable and qualitative solutions that address the needs of people at the Bottom of the Pyramid, eliminate disparity and focus on an inclusive growth model. NInC's initiatives are also aimed at fostering an innovation ecosystem across domains and sectors to strengthen entrepreneurship and growth, to facilitate the birth of new ideas and enhance collaboration. While conceptualising these initiatives, the key drivers have been parameters of sustainability, affordability, durability, quality, global competitiveness and local needs. Finally, through its various initiatives, NInC aims to expand the space for disruptive thinking, dialogue and discourse on innovation.

As stated above, at the core of all our efforts is the commitment to a focus on inclusive growth, affordability, scalability and sustainability. NInC has been working on developing an inclusive innovation strategy with the aim of benefiting a large cross-section of underserved population, without compromising quality parameters, and with minimum impact on the environment and resources. This pervasive model of innovation for/of and by the people can truly empower our nation and make people stakeholders in wealth creation. We feel that the Indian approach of inclusive innovation can also emerge as a model for the world to emulate.

As India pioneers this path towards a more inclusive innovation model, it needs to harness the potential of its young entrepreneurs by empowering them with support and a conducive regulatory environment so that they are encouraged to create more inclusive business models for the benefit of larger communities. The country also needs to be prepared to reap the advantages of unprecedented connectivity. Mobile phones and the recent broadband initiatives of the Government will completely

alter the technological landscape of the country. These new technology platforms will have a massive impact on organisational structures, delivery models and business processes, where innovation will be critical. We as a nation must be ready for this new wave of innovations. We also need to nurture the innovation spirit and capabilities of our youth to ensure that they can launch the next generation innovative ideas to transform the dreams of many into opportunities. Attention must also be paid to innovation within Government systems to revitalise redundant structures and obsolete processes to ensure that governance is in tune with 21st century needs and democratisation of information empowers citizens at the grassroots. More importantly, we need to work collectively and collaboratively to ensure that our shared vision and shared goals are achieved and we are able to create a more equitable and just environment.

The last year saw the fruition of several NInC driven initiatives. We are in the final stages of launching the India Inclusive Innovation Fund to finance enterprises focused on the bottom of the pyramid. In the long term, the Fund will aspire to an eventual size of Rs 5000 crore, but will be operationalised with an initial corpus of Rs 500 crores with contributions from the Ministry of Finance, Public sector banks and multilateral agencies. We have also been working on creating an ecosystem for seeding innovations in regional industry with a focus on MSMEs, by facilitating the creation of Industry Innovation Clusters to drive job creation and productivity in MSMEs. Currently, we are in the process of compiling learnings from seven industry clusters to fine tune our model with the aim of replicating it across other industry clusters in the country through the Ministry of MSME. We have also been working on implementing an applications framework that can leverage the upcoming broadband connectivity to 250,000 panchayats in the country to democratise information and enhance citizen participation in governance. We are also working with the Ministry of Law and Justice, the Judiciary and the Ministry of Home Affairs on ICT interventions in courts, police stations and prisons to improve access to justice and reduce pendency in the legal system.

NInC has also been taking steps to nurture innovation in the education system through action in schools and colleges by intervening in curriculum, talent-spotting of innovators among students and award of Innovation Scholarships. I am pleased to inform you that the Ministry of Human Resource Development will be launching 1000 Scholarships under the National Innovation Scholarship Scheme in early 2014. To excite young minds in schools with demonstrable, hands-on learning, we are also promoting the idea of conducting 'Tod Fod Jod' workshops across schools. Through these workshops the aim will be to encourage students to dismantle and re-assemble everyday products to understand the concepts behind them in a practical and interesting manner. We are also working with the Ministry of Human Resource Development towards the creation of a Meta University, as a global first, that rides on the National Knowledge Network to promote multi-disciplinary learning. To drive innovation at the university level the National Innovation Council is facilitating the creation of innovation ecosystems at Universities through University Innovation Clusters. We are also working with the Ministry of Human Resource Development for setting up twenty Design Innovation Centres, co-located in existing institutes, an Open Design School as well as a National Design Innovation Network that will leverage the National Knowledge Network. Ministry of Human Resource Development in consultation with the National Innovation Council and Planning Commission has decided to start 5 Design Innovation Centres during the year 2012-13.

Efforts are also underway to create an institutional framework for innovations in Government by facilitating the setting up of State Innovation Councils in each State, and Sectoral Innovation Councils aligned to Union Government Ministries. Currently, 28 States have set up State Innovation Councils and 25 Sectoral Innovation Councils have been set up and some have already created their innovation roadmaps. We also focused on encouraging cities to set up City Innovation Councils to foster innovations across cities. Our inputs have also formed the basis of the perspective on innovation in the Planning Commission's 12th Five Year Plan. Further, we have also conceptualised an initiative where Members of Parliament of LokSabha will annually host the 'One MP One Idea' competition where

they will look to award the top three innovations in their constituency to spur and capture innovative thinking at the grassroots. We are also working with select Ministries and other stakeholders to create discourse around innovation in critical needs sectors. In this context, we worked with the Ministry of Urban Development and the World Bank to host a National Conference on Innovations in Urban Governance.

We want to inspire people's imagination for innovation and leverage new media platforms to enhance connectivity, dialogue and collaboration. To enable this, we launched the Anti-Drudgery Challenge focused on solutions for the bottom of the pyramid by leveraging crowdsourcing; we have worked on creating Innovation Spaces for children in Science Centres and have pioneered efforts such as Twitter conferences, Hackathons and the Open Government Platform within the Government. We have also prioritised promoting co-creation and sharing of knowledge through Global knowledge partnerships given the global dimension of innovation. To encourage this knowledge sharing we have launched the Global Innovation Roundtable as a policy dialogue where heads of innovation policy from Governments around the world came together to exchange ideas and outline possible collaborations. NInC has already hosted two such Roundtables in 2011 and 2012 and is gearing up for the third edition this year. To further encourage global partnership opportunities in innovation we are in the process of launching an EU-India Prize for Affordable and Inclusive Innovation, under the aegis of DST, and are also working with the Ministry of External Affairs (MEA) to outline proposals for African Governments.

Our effort has been to mainstream the idea of inclusive innovation and the effort required to create a movement around it. The National Innovation Council's aim has been to play the role of a catalyst to unlock the latent potential among our people through undertaking various initiatives at the national and regional levels, providing policy inputs for developing an ecosystem for innovation, creating various mechanisms of collaboration in the system, and above all by encouraging an innovative mindset. The efforts of the Council were also recognised by the European Institute for Creative Strategies and Innovation in Paris when India's Decade of Innovation Programme spearheaded by the National Innovation Council was announced the winner of the Hermes Award 2012 for being the 'Best humanistic policy of innovation'. Our initiatives for driving innovation in MSME clusters were also featured in the Global Innovation Index 2013 of WIPO.

I would like to thank all the members of the National Innovation Council for their support, encouragement, leadership and vision in this exciting journey and in realising our ambitious agenda. I would also like to extend my thanks to all the Government Ministries, The Prime Minister's Office, the Planning Commission, and organisations and individuals who have worked and collaborated with us during our journey.

While critical challenges still remain in transforming our nation into a nation of problem solvers, I am very hopeful about the future of innovation in the country. I am hopeful because of the boundless energy and talent of our youth, the creative spirit of our nation, the scientific temperament among our midst, the leadership and vision provided by our Government and, above all, the untapped potential towards innovations among all stakeholders such as citizens, Government, schools, colleges, universities, the academic community, industry, entrepreneurs, and civil society. This innovation nation will expedite growth and development, with a focus on the needs of the many, and unleash the creative potential of our people.

Sam Pitroda
Chairman, National Innovation Council

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Executive Summary

The National Innovation Council (NInC) has worked on the following ideas, including the implementation and follow up related to some of the initiatives conceived in the past few years. The current status is given below.

Financing Innovation: The India Inclusive Innovation Fund

To promote inclusive innovation and entrepreneurship focusing on the needs of people in the lower echelons of society, an India Inclusive Innovation Fund (IIIF) was conceptualised. One of the first of its kind in the world, the Fund is conceived as a SEBI-registered venture capital fund that will back creative new solutions to developmental challenges - projects that innovatively improve quality of life for poorer Indian citizens. Fund investees will simultaneously deliver social impact (in healthcare, agriculture, education, energy, and more), while generating moderate commercial returns for their investors. Given its focus on harmonising social with commercial returns - rather than merely maximising financial gain - the Fund will seek investors with similar operating philosophies. It is proposed to be seeded by the Government of India, which will provide 20% of the Fund's corpus, and draw the remainder of its financing from banks, insurance companies, financial institutions, and bilateral and multilateral development agencies. The Fund would be operationalised when it reaches a corpus size of Rs. 500 crores.

Progress

The Fund proposal was announced at the Council's First Report to the People on 15 November 2011. In this last two years, the Council has collaborated with the Ministry of Micro, Small, and Medium Enterprises to steer the Fund towards its final stages of approval. It has developed an innovative structural design for the Fund, suited to its unique remit and investor base. The Council has also reached out to potential investors to make the case for innovation investments that are simultaneously social and commercial, and is successfully raising the Fund's initial corpus. The Fund, after obtaining in-principle commitments for Rs. 500 crores and receiving final Government approvals, will be registered with SEBI.

A local ecosystem approach to promoting innovation for socio-economic growth: Innovation Clusters Initiative

Industry, especially Micro, Small and Medium Enterprises (MSMEs), and knowledge institutions (educational institutions, R&D labs) are acknowledged as the key players in innovation, leading to growth in productivity, competitiveness and socioeconomic growth thereby. With diverse and fertile resources available, India, however seems to be missing the right recipe for channelling these resources for maximum impact.

To be able to leverage economies of scale, given the geographic and demographic size of the country, NInC opted for a cluster-based approach to develop models for fostering innovation in industry and knowledge institutions. The Innovation Cluster initiative envisaged creating local ecosystems, by enabling formation of mutually beneficial partnerships between various actors, thereby creating channels for knowledge and resource exchange. NInC has piloted the Innovation Cluster model in 7 Micro, Small and Medium Enterprise (MSME) clusters and 2 Universities over the past 24months.

Progress

By successfully demonstrating 10 new products, 12 new processes and 2 new centres, the MSME cluster pilots of this initiative have been able to open the doors for positive impact in about 85,000 MSME units, employing over 10lakh people; with zero or minimal incremental investments made by all involved. On the other hand, the University pilots have showcased new ways of unleashing the latent innovation potential of our Universities. The initiative has also found mention in the Global Innovation Index 2013 Edition, published by World Intellectual Property Organization (WIPO), Cornell University and INSEAD.

To take its learnings from the pilots forward, NInC has joined hands with the Ministry of Micro, Small and Medium Enterprises and the Planning Commission of India, to create a national initiative focused on converging and synergising available knowledge, resources for the benefit of MSMEs in the country. Many central ministries, state governments and private industry bodies have expressed their support for this initiative and the initiative is expected to be announced before January, 2014.

Biotech Industry Research Assistance Council (BIRAC) has partnered with NInC to replicate and adapt the Innovation Cluster model in 10 Universities focusing on R&D in the Biotech domain. With the final details being worked out, the initiative is expected to be announced by December 2013.

Nurturing Innovation through Education

To promote creativity and nurture innovations NInC has been working with the Ministry of Human Resource Development (MHRD) and other institutional stakeholders on the following proposals.

1. Creation of a separate scholarship stream of National Innovation Scholarships analogous to the National Talent Search Scheme; with the MHRD. This will help identify talented children at the school level who think creatively, laterally and innovatively on issues that they perceive as important in their local environment. It is expected to have a multiplier effect of valuing creativity and innovation by parents, teachers and the learning system. Annual Innovation workshops will be organised to nurture, mentor and network these young innovators.
2. Setting up an Innovation Centre in each DIET (District Institute of Education and Training) to enhance teacher training and enable them to become facilitators of creativity and innovative thinking; with the MHRD. This could be done by tapping local creative talent on part-time basis into DIETs.
3. Mapping of Local History, Ecology and Cultural Heritage by each high school in the country to create critical thinking on their local environment by students, with the MHRD.
4. Setting up a Meta University, as a redefinition of the university model in the 21st century by leveraging India's National Knowledge Network to enable multi-disciplinary learning and collaborative knowledge creation; with the MHRD.
5. Setting up twenty Design Innovation Centres co-located in Institutes of National Importance, an Open Design School (ODS) and a National Design Innovation Network (NDIN). It has been proposed to include these initiatives in the 12th Plan for consideration by the MHRD. Co-location of Design Innovation Centres in campuses of national repute like IITs/NITs will help leveraging of academic and industry resources and give a boost to design capacity in the country. ODS is envisaged as a multi-disciplinary design school that, besides running its own classes in a model of collaborative education, provides free access to design education and learning material through the internet. NDIN is envisaged as a network of design schools, research organisations, academic institutions, NGOs, government bodies and the public working together to promote design innovation.

6. Creating 'Tod Fod Jod' (TFJ) Centres in schools and colleges. The aim is to provide a hands-on learning environment where students can de-construct, re-construct or re-purpose everyday objects that they see or use.

Progress

1. *NInC and MHRD had set up a joint committee to define the modalities of the National Innovation Scholarships, which submitted its recommendations earlier this year. The Ministry of HRD is currently in the process of forming an EFC note and would be ready to launch the scholarships in early 2014.*

2. *MHRD has issued guidelines for the Centrally Sponsored Scheme on Teacher's Training which is included in 12th Five Year Plan. These guidelines have detailed steps on re-positioning of DIETs in the country. As part of the guidelines it has also been agreed to develop Resource Centres in each DIET which could also double up as Innovation Centres.*

3. *MHRD has approved the mapping exercise as part of the RashtriyaMadhyamikShikshabhiyan (RMSA) scheme. It was also discussed in the First Meeting of their Sectoral Innovation Council held in September, 2013 that mapping of Local History, Ecology and Culture Heritage should be done at large scale.*

4. *Under the guidance of the MHRD, a Meta University has been established in Delhi with the participation of Jawaharlal Nehru University, JamiaMiliaIslamia, Delhi University and the Indian Institute of Technology, Delhi. These institutions have identified three principal areas viz., climate change, public health and education to concretise the concept of Meta University, with each institution utilising its existing infrastructure and capabilities. Meta Universities are proposed to be set up in Kolkata, Pune and Hyderabad as well. The University Grants Commission (UGC) has been asked by MHRD to develop guidelines for universities to set up Meta Universities.*

5. *Ministry of HRD along with NInC, Planning Commission and different Central Institutions, prepared a concept note on establishment of Design Innovation Centres. Based on this concept paper, draft EFC Memo for setting up of 20 Design Innovation Centres, One Open School of Design and National Design Innovation Network during 2013-14 to 2016-17 at a total cost of Rs. 241.20 crores is under finalization. In the first phase, it has been prepared to set up 6 DICs during 2013-14. Out of which 5 Institutions for setting up of DICs have been identified. These are IIT- Bombay, IIT-Delhi, IIT-Guwahati, IISC-Bangalore, and University of Delhi.*

6. *The Tod fod jod initiative is being piloted in various locations across the country. As part of the pilot, NInC is conducting workshops in identified schools in Delhi, Vadodara, and Karnataka, as well as in ManavRachna University, Faridabad. Over 4,000 kids have attended TFJ sessions. These pilots are expected to be expanded to several other locations across the country over the next six months. NInC also organised the first-ever Tod fod jodMela in January 2013 to acknowledge the potential of innovative kids and provide a platform for TFJ mentors to share their experiences.*

Connecting People and Technology for Innovation through Rural Broadband

To accelerate the reach of connectivity and to enhance development and innovation at the grassroots, NInC has followed up on the Government's proposal to provide optic-fibre based broadband connectivity to 250,000 panchayats in the country, which are at the core of governance and service delivery at the last mile. The aim is to not only leverage this connectivity to improve service delivery by bringing in due transparency and accountability, but also to provide a platform for collective solution building and knowledge sharing for local populations through relevant applications and an

associated ecosystem. To understand the needs of such an ecosystem and generate a corpus of field tested evidence, NInC worked with the Government of Rajasthan on the E-Panchayat Experimental Sites (EPES) initiative.

Progress

For the EPES initiative, specifications were designed to enable ten panchayat locations in Ajmer District in Rajasthan to be supported with basic applications and ICT-enabled services in domains like digital literacy, education, and healthcar to generate field-tested lessons on community adoption of ICT.
NInC is also working on applications for rural broadband in collaboration with relevant Ministries. A knowledge base is also being developed around effective community engagement strategies. This knowledge base is built around community engagement model which enables citizen volunteers (known as 'IT Saathis').

Institutional Framework for Promoting Innovation: State and Sectoral Innovation Councils

To create a cross-cutting system to boost innovation performance in the country, NInC is facilitating the setting up of State Innovation Councils in each State. These Councils would enlist non-government expertise and are expected to drive the innovation agenda in the States. NInC is also encouraging the setting up of Sectoral Innovation Councils aligned to Union Government Ministries to promote innovation ecosystems across sectors and domains.
NInC is also working with relevant Ministries and other stakeholders to prepare drafts of national level policies for innovation and entrepreneurship. The Council has also been involved in providing inputs for the chapter on innovation for Government of India's Twelfth Five Year Plan.

Progress

Currently, 28 States have constituted State Innovation Councils and 25 Ministries and Departments have formed Sectoral Innovation Councils. Roadmaps have been submitted by 7 Ministries and Departments viz Fertilizers, Health and Family Welfare, Information & Broadcasting, Power, Petroleum and Natural Gas, Science and Technology and Telecommunication. These will contribute to developing the innovation roadmap for the decade.

Inspiring Imagination for Innovation

The National Innovation Council has been encouraging the use of prizes, challenges, new media, innovation spaces and crowdsourcing as tools for promoting Innovation.

1. Innovation Spaces:NInC has created a ten point program for creation of Innovation spaces at Science centres, which includes various sections on innovations, innovators, innovation challenges, gadget technology, emerging technologies, and showcasing innovation programs and ideas from the Government and Industry.
2. Crowd Sourcing:NInC has been experimenting and showcasing ways of leveraging the power of networks, crowd sourcing and social media to bring communities together to discuss debate and explore solutions to a variety of challenges.
3. Hackathon:NInC in collaboration with the Planning Commission organised the first ever Hack-

athon by the Government of India to help percolate the vision for the nation as envisaged by the 12th Five Year Plan. A Google Hangout, which discussed the 12th Plan, was watched by several lakh people across the world via internet and television.

4. Anti-Drudgery Challenge:The first challenge launched by the National Innovation Council sought innovative ideas in the areas of design improvement of work implements, better processes, new equipment and techniques for different occupational groups like blue-collar workers, street-vendors, and construction workers.

5. One MP - One Idea:The 'One MP - One Idea' leverages the power of India's people through their chosen representatives. This competition will generate and select ideas by galvanizing all constituencies through the Members of Parliament (MP).

Progress

a) *The National Innovation Council is currently piloting the innovation space concept with the National Council of Science Museums (NCSM). The first innovation space was launched in August 2013 at BITM, Kolkata. NCSM is also creating innovation spaces at their science centres in Delhi, Bangalore, Mumbai and Guwahati which will be operational by December 2013. NInC's recommendations for science museums have also been included in the 12th Plan*

b) *NInC has tried several experiments including organising three Twitter Conferences, public lectures reaching several hundred thousand students via the NKN, and extensive use of new media platforms for regular dissemination of its information.*

c) *This 32 hour marathon event which ran across multiple locations in India produced 220 submissions which included several visualizations, short films and software applications based on the core ideas in the 12th Plan*

d) *468 proposals were received in a period of four months and finally six proposals were shortlisted after several rounds of screening.The six winning innovations included a novel design of a rickshaw, a human powered motor, a display unit for street vendors, a low cost cycle for physically challenged, and devices to reduce the drudgery of construction workers and sanitation workers. The India Grand Challenge Programme will be launched this year.*

e) *The 'One MP— One Idea', proposed by the NInC in 2011, has been approved and welcomed by the LokSabha. Accordingly, the Ministry of Statistics and Programme Implementation has modified the MPLADS guidelines to make provisions for the 'One MP — One Idea' competition for all LokSabha MPs.*

ICT Innovations in the Judicial System

In the last decade, the Government has made several efforts to improve access to justice by introducing ICT interventions in Justice Administration. In order to synergise the existing efforts for reducing pendency in the Justice delivery system and for creating a coherent vision and coordinated action amongst the various stakeholders, the Courts of Tomorrow and the Integrated Criminal E-Justice System project has been conceptualised.

Progress

The Courts of Tomorrow initiative is set for a state-wide pilot at Madhya Pradesh. We are collaborating closely with the High Court of Madhya Pradesh (Government of Madhya Pradesh), and the National Informatics Centre to implement the vision of the Courts of Tomorrow. Pilots at the Delhi High Court are also being conducted, which include the use of the e-Office software for administra-

tive uses; delivery of summons by using the postal system; new hardware configurations for ICT enabled court rooms, etc. The office is working closely with the e-Committee of the Supreme Court, the Ministry of Law and Justice, the Ministry of Home Affairs to define data models, interfaces and exchange protocols for integration of courts, police and prison systems

Also, a concept note on Integrated Criminal E-Justice System was prepared by the National Informatics Centre and a pilot in one district of Delhi has been funded by the Department of Information Technology, Government of India. The Pilot is being developed and implemented by a Steering Committee Chaired by Justice Madan B. Lokur, Judge Supreme Court of India, nominated by the Chief Justice of India to lead this pioneering initiative.

Partnering for Innovation: Collaboration and Networks

NInC is also focused on facilitating and leveraging platforms for international collaboration for driving innovation and research. To exchange ideas on fostering international collaborations for innovation, NInC has launched the Global Innovation Roundtable as a policy platform to discuss ideas around creating an inclusive model of innovation. NInC hosted the First Global Innovation Roundtable in New Delhi on 14th-15th November 2011, in collaboration with the World Bank Institute. The heads of innovation from 15 Governments were invited to come together to discuss the role of innovation in improving growth and welfare. To propose further collaborations and knowledge exchange to mobilise resources, and continue the systemic focus on promoting inclusive innovation, NInC hosted the Second Global Innovation Roundtable on 1st and 2nd November 2012. The Roundtable saw participation from heads of Innovation policy from 20 Governments across the world and leading global Innovation experts and the key objective of the Roundtable was once again to develop a paradigm for inclusive innovation and share experiences with stakeholders.

Joint collaboration projects have also been undertaken with other countries. India and the US collaborated to develop an Open Government Platform (OGPL) to promote transparency and greater citizen engagement by making more government data, documents, tools and processes publicly available in useful machine-readable formats to develop new applications for citizen benefit. OGPL combines and expands the best features of the U.S. "Data.gov" and India's "India.gov.in" sites, and will be offered freely to other governments using the open-source model.

The National Innovation Council (NInC) and the Delegation of the European Union to India have also been in discussions to collaboratively develop and launch an India-EU prize for affordable and inclusive innovation.

The National Knowledge Network (NKN) is being developed by the Government of India as a high speed multi gigagbit network which aims to connect the country's educational and research institutions for real time research and collaboration. Currently 1106 institutions are connected on NKN. The NKN is also connecting to several global locations to enable real time research. NKN has been connected to the International Research Education Network through Trans Eurasia Information Network (TEIN) 3 and then through TEIN4. This has the participation of various research labs / universities in Europe and Asia Pacific region. This is achieved by connecting NKN by a 2.5 MBPS link to Madrid and 2.5 GBPS link to Singapore.

Progress

This year the National Innovation Council is hosting the third edition of the Global Innovation Roundtable on 18th and 19th November where heads of innovation policy from 50 Governments are coming together to discuss innovation perspectives and share best practices. To provide a long term, institutionalised focus, this year the Ministry of External Affairs is collaborating with NInC to host the Roundtable.

OGPL's initial version was released on 30th March 2012 and implemented in India's data-portal (http://data.gov) to provide single-point access to all data-sets published by the Government in an open format. Simultaneously, a National Data Sharing and Accessibility Policy (NDSAP) were announced by the Government of India on 17th March 2012. NDSAP mandates all Ministries/Departments to release maximum possible datasets (non-sensitive) in the public domain. Currently, 4816 data sets are available on the portal for use by relevant stakeholders and the larger community.

The Department of Science and Technology in India has agreed to provide the institutional mechanism to support the India-EU Prize under the overarching umbrella of India-EU S&T Cooperation Agreement, after the National Innovation Council has provided the framework for the same. On the European side, the Delegation of the EU and the Embassies of the EU Member States interested in the prize will report to and discuss the prize design with their respective authorities in Europe and examine the possibilities for the way forward.

The aim is to finalise the contours of the prize design and implementation modalities by the beginning of 2014. The aim will be to launch the prize by mid-2014.

NKN has decided to set up a Points of Presence (PoP) at Singapore, Amsterdam, CERN, and New York. These PoPs will further be connected to various RENs of the world. The RFP for the same is available on the web and will be achieved by the end of March 2014. By establishing these PoPs, NKN will have direct interactivity with Internet2, Gloriad, Canarie, Geant, CERN, TEIN4 and various others.

Portals

The National Knowledge Commission (NKC) recognised that as the drive towards decentralization, right-to-information, people's participation and transparency sweeps the country, tools like public portals can play an important role in ensuring that more people exercise their rights. The NKC and thereafter the National Innovation Council have been promoting the development of portals in various areas.

Progress

Public portals on various subject areas such as Innovations, Tod Fod Jod, Clusters, Open Government, Mahatma Gandhi, Biodiversity, Water, Teachers, Environment, and Energy have been developed and launched in the last several years.

National Innovation Council: An Overview

Introduction

Innovation involves thinking differently, creatively and insightfully to create solutions that have an impact in terms of social and economic value. Innovation is critical for creating competitive or collaborative advantage, problem solving to address the challenges of our times, improving governance, and generating intellectual value. It can redefine everything – from products, processes, and services to individuals, organisations, the public and private sector and institutions.

Realising that innovation is the engine for national and global growth, employment, competitiveness and sharing of opportunities in the 21st century, the Government of India has declared 2010-2020 as the 'Decade of Innovation'. To discuss, analyse and help implement strategies for inclusive innovation in India and prepare a roadmap for innovation in the country, Dr.Manmohan Singh, Hon'blePrime Minister constituted the National Innovation Council (NInC) in September 2010 with members from diverse fields. The Council is chaired by Mr Sam Pitroda, Adviser to the Prime Minister on Public Information Infrastructure and Innovations. The mandate of the Council has been defined as below:

Terms of Reference

a)   Formulating a Roadmap for Innovation for '2010-2020 Decade of Innovation'
b)   Creating a framework for
- Evolving an Indian model of innovation, with focus on inclusive growth
- Delineating policy initiatives within the Government, required to spur innovation
- Developing and championing innovation attitudes and approaches
- Creating appropriate ecosystems and environment to foster inclusive innovation
- Exploring new strategies and alternatives for innovations and collaborations
- Identifying ways and means to scale and sustain innovations
- Encouraging Central and State Governments to innovate
- Encouraging universities and R&D institutions to innovate
- Facilitating innovations by SMEs
- Encouraging all important sectors of the economy to innovate
- Encouraging innovation in public service delivery
- Encouraging multi-disciplinary and globally competitive approaches for innovations

NInC Strategy

While India has a long tradition of innovation, we as a nation need to do more to sustain a culture of innovation and leverage it to reduce disparity and deliver equitable development. India has unique challenges and large unmet needs across diverse areas such health, education, agriculture, energy, urbanisation and so on. We also have significant challenges of exclusion, as a result of multiple deprivations of class, caste and gender - all of which require new approaches and solutions, and looking beyond the conventional way of doing things. Innovative solutions are going to be the key for providing answers to the most significant challenges in our country and for creating opportunity structures for sharing the benefits of the emerging knowledge economy. The future prosperity of India in the new knowledge economy will increasingly depend on its ability to generate new ideas, processes and solutions, and through the process of innovation convert knowledge into social well-being and

economic prosperity.

In this context, India needs an innovation strategy geared towards creating an 'Indian model of development' with a focus on 'more from less for more'. India needs more 'frugal, distributed, affordable' innovation that produces more frugal cost' products and services that are affordable by people at low levels of incomes without compromising the safety, efficiency, and utility of the products. The Indian approach could also provide an innovation model for developing countries across the globe confronting similar challenges of inclusion. The Council's strategy (Figure 1) on innovation is focused around five key principles:
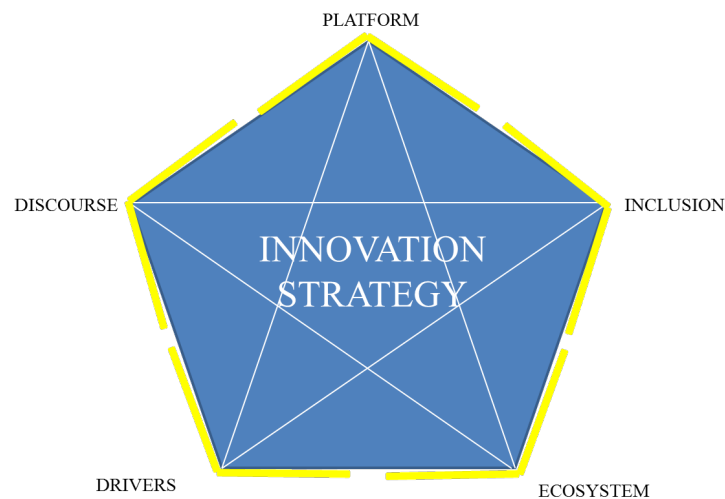

Figure 1: National Innovation Council - Strategy

1. **Platform:** The aim is to redefine innovation to go beyond formal R&D parameters, and look at it as a broader platform that breaks sectoral silos and moves beyond a high-tech, product-based approach to include organisational, process and service innovation.

2. **Inclusion:** The core idea is to innovate to produce affordable and qualitative solutions that address the needs of people at the Bottom of the Pyramid, have social impact, eliminate disparity and focus on an inclusive growth model.

3. **Eco-system:** NInC's initiatives will be aimed at fostering an innovation eco system across domains and sectors to strengthen entrepreneurship and growth, to facilitate the birth of new ideas and enhance collaboration to enhance economic value.

4. **Key Drivers:** While conceptualising the initiatives of the Council, the key drivers will be parameters of sustainability, affordability, durability, quality, global competitiveness and local needs.

5. **Discourse:** NInC, through its various initiatives, will aim to expand the space for disruptive thinking, dialogue and discourse on innovation and involve multiple stakeholders in the process.

The various initiatives of the Council have been built around these strategic parameters with a wide range of stakeholder consultation and involvement.

By creating a national level Council focused on innovation, the attempt has been to mainstream the dialogue on innovation and take the first step in creating an innovation mindset in the country as well as opportunities for the billion plus people. The Council is also focused on the need to create mechanisms of collaboration among Government, industry, R&D institutions, academia - and to leverage all these constituencies to drive long-term transformation through innovation. The idea is to encourage and inspire the nation to think, discover, deliberate and do, and in the process unleash the latent innovation potential in the country.

Members of National Innovation Council

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Financing Innovation: The India Inclusive Innovation Fund

Background

Successful inclusive innovation needs finance. Innovators who develop creative, economically sustainable solutions to developmental challenges will need funds to survive the difficult process of seeding, incubating, and developing their ideas. Unfortunately, India's innovation ecosystem cannot always help these innovators. Enterprise financiers – like banks, and venture capitalists – can efficiently muster talent and dynamism around profitable new ideas; however, they are incentivised to drive commercial, not social impact. On the other hand, subsidies and philanthropic financing (which remain largely grant-based) prioritise social impact, but are not designed to encourage self-sustainability. A gap remains between the two: one that aspiring inclusive innovators risk falling into. This gap needs to be bridged by financing mechanisms which combine social impact with reasonable economic returns.

The India Inclusive Innovation Fund

The India Inclusive Innovation Fund is the National Innovation Council's attempt to accomplish this. The first of its kind in India of its size and range of activity, the Fund is conceived as a SEBI-registered venture capital fund that will back creative new solutions to developmental challenges – projects that innovatively improve quality of life for poorer Indian citizens. Fund investees will simultaneously deliver social impact (in healthcare, agriculture, education, energy, food and nutrition and more), while generating reasonable commercial returns for their investors. The Fund will invest directly in these projects, and will also contribute to the corpus of Funds with similar objectives. At least 50% of the advances from the Fund would be to MSMEs in the first close. Further in order to ensure spread of investment, the Fund shall not invest more than 15% of the Corpus in any single Company. The Fund intends to partner with public R&D programmes and laboratories to support the commercialisation and deployment of socially relevant technologies and solutions.

Given its focus on harmonising social with commercial returns – rather than merely maximising financial gain – the Fund will seek investors with similar operating philosophies. It is proposed to be seeded by the Government of India, which will provide 20% of the Fund's corpus, and draw the remainder of its financing from banks, insurance companies, financial institutions, and bilateral and multilateral development agencies. The Fund would be operationalised when it reaches a corpus size of Rs. 500 crores.

Structural Design

The Fund will need to combine venture capital's traditional flexibility (which allows investment into promising early-stage innovation) with the accountability that must accompany social investments. Over this last year, the Council has developed an organisational design for the Fund that seeks to bridge the two: one that is based on the established venture capital format, with additional oversight and protection built into key decision-making elements.

Together with the Ministry of Micro, Small, and Medium Enterprises, the Council has proposed the following structure:

Trust and Governing Council: The Council proposes to create a Trust under the provisions of the Indian Trusts Act, 1882, which will serve to house the Fund's capital corpus. The Trust will be registered with the SEBI as a Category I AIF – VCF under the Alternative Investment Fund Regulations, with the Ministry of MSME and IDBI Trusteeship Services Ltd. as the co-settlors. IDBI Trusteeship Services Ltd. is an established trustee services company and would be the Trustee of the Fund.
Major policy decisions would be taken by a Fund Governing Council, with a maximum of 10 members comprising eminent professionals with experience in business, management, finance and public service etc. and the Secretaries in charge of Ministry of MSME and Department of Financial Services as ex-officio members. The Governing Council will ensure that the Fund stays true to its social impact remit, and will have the right to veto any investment decision if it believes that it is not as per the objectives of the Fund.

Professional Investment Manager: In view of the high risk nature of the projects to be supported, an Investment Manager Company, staffed by professional fund managers, will look after the day to day operations of the Fund. These managers will have the independence they need to discover and evaluate projects most capable of generating both social and commercial impact. In view of the unique nature of the Fund, the Fund's Investment Manager will be a Section 25, not for profit Company and its shareholders and directors will not be entitled to any salaries, fees or dividends.
The Investment Manager will also be tasked with development activity, managing the mentoring and incubation of promising social innovation start-ups in their early stages – giving them the best chance of survival and success. The Investment Manager's management fee would vary between 2.5% p.a and 1.5% p.a of the corpus, depending on the size of the corpus. It is proposed that part of this fee would be used to fund the company's mentoring, incubation, and development activity; as will any surplus it generates (after payment of fund managers' compensation).

Investment Committee: The Section 25 Investment Manager Company would establish an Investment Committee of a maximum 11 members, consisting of Fund contributors and professionals of repute, who have the relevant background of entrepreneurship, business, investment, etc. The Investment Committee will take all investment decisions, which will be subject to a veto by the Governing Council as stated above.

Fundraising

The Council is successfully engaging government and commercial investors, with the Ministry of MSME, to evangelise the Fund and its basic premise and to raise capital.

Government Capital: At the launch of the Council's First Report to the People on 15 November 2011, the Hon'ble Finance Minister at the time Shri Pranab Mukherjee announced a Government of India contribution of Rs 100 crores to kick-start the Fund. This Government seed investment was allocated in the Union Budget 2012. The Ministry of Micro, Small, and Medium Enterprises is currently processing the approvals needed for final investment to take place, on Fund operationalization.

Contribution from Other Sources:The Council has already received in principle commitment/support of Rs 375 crores from a Multilateral Agency, public sector banks and financial institutions and additional commitments are anticipated.

Progress

The Fund proposal was announced at the Council's First Report to the People on 15 November 2011. In this last two years, the Council has collaborated with the Ministry of Micro, Small, and Medium Enterprises to steer the Fund towards its final stages of approval. It has developed an innovative structural design for the Fund, suited to its unique remit and investor base (as outlined above). The Council has also reached out to potential investors to make the case for innovation investments that are simultaneously social and commercial, and is successfully raising the Fund's initial corpus.
The Fund, after obtaining in-principle commitments for Rs 500 crores and receiving final Government approvals, will be registered with SEBI. A pipeline of potential investment prospects has been identified. A specialised core team is also expected to be in place before the first closure. It is anticipated that the Fund would be operational by the beginning of 2014.

Innovation Clusters: Seeding Local Ecosystems for Fostering Innovation

Background

Industry, especially Micro, Small and Medium Enterprises (MSMEs), and knowledge institutions (educational institutions, R&D labs) are acknowledged as the key players in innovation, leading to growth in productivity, competitiveness and socioeconomic growth thereby. With diverse and fertile resources available, India, however seems to be missing the right recipe for channeling these resources for maximum impact.

Success stories globally have shown that to develop innovation capabilities and capacities, it is vital to nurture local innovation ecosystems that will connect industry, academia, R&D, technology, finance, skilled manpower, market, mentors, domain expertise and other facets. Formal and informal linkages between these actors are imperative for innovation-driven growth and fostering these linkages and are seen as a key enabler for the leap forward. By partnering and collaborating, both public and private players can leverage mutual strengths and exploit opportunities for innovations in technology, products, services, business models and organizational models.

To be able to leverage economies of scale, given the geographic and demographic size of the country, NInC opted for a cluster-based approach to develop models for fostering innovation in industry and knowledge institutions. The Innovation Cluster initiative envisaged creating local ecosystems, by enabling formation of mutually beneficial partnerships between various actors, thereby creating channels for knowledge and resource exchange. Providing such acess will enable new industrial growth, increase job opportunities in the economy and enable our industries to become more competitive globally.
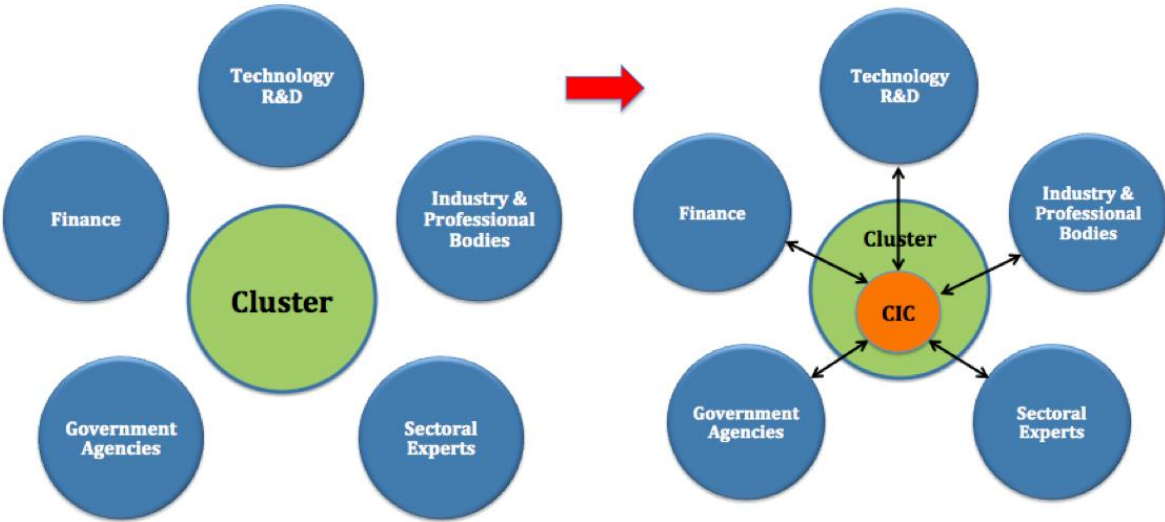
Innovation Cluster Initiative

Figure 2: Ecosystem with CIC as the hub

Cluster Innovation Centre (CIC) Model

With a focus on establishing local ecosystems, the National Innovation Council (NInC) recommended creation of Cluster Innovation Centres (CICs) to act as hubs of the ecosystem. These CICs will, based on the demand for knowledge and/or resource, seek partnerships with relevant actors, on behalf of the cluster. The CICs will design and support implementation of collaborative innovation-driven initiatives for the cluster and create mechanisms for percolation of the benefits derived from these initiatives to all members of the cluster. Figure 2 presents a diagrammatic view of such an ecosystem enabled by the CIC.

The CIC, typically, is a small office of 2-3 professionals who are dedicated to shaping and managing the ecosystem for the cluster. The following is a list of typical actions to be performed by the CIC:

- Assess the needs and of the members of the cluster
- Identify potential partnerships to address the needs of the cluster
- Forge partnerships with institutions of interest
- Initiate and manage proof-of-concept or pilot initiatives
- Scale up successful initiatives and ensure results are available to all members of the cluster
- Document and create a repository of the knowledge gained and key leanings from the initiatives

Capacity and capability building

Innovation, especially ecosystem driven, is a new model for India. While there are existing examples of successful innovation ecosystems in the country, a concerted effort to seed and foster such ecosystems has never been attempted before.
Given that the Innovation Cluster initiative sought to do so, NInC realized the need for relevant skills and handholding to be imparted to the cluster actors, esp. to the proposed CICs. NInC has partnered with various organisations to conduct trainings, workshops and provide handholding support needed to the cluster actors and CICs.

The following (Table 1) showcases the partners and their areas of expertise leveraged for the initiative:

Entity	Area
Infrastructure Leasing & Financial Services Cluster Development Initiative Ltd., Delhi	Program management, Cluster management
Tata Management Training Centre, Pune	Innovation management, Project management
Foundation for MSME Clusters, Delhi	Cluster & Stakeholder management
Confederation of Indian Industries, Delhi	IP management

Table 1: Partners and areas of expertise

Innovation Cluster Portal and Innovation Toolkit

Figure 3: Snapshot of Innovation Toolkit

To support the CICs and provide a repository of knowledge about innovation and models, best practices etc., NInC has created a portal and an online Innovation Toolkit. The toolkit is a collection of resources available on various topics related to innovation, innovation management, intellectual property (IP) and other topics, which serve as a useful knowledge base for an innovator. This material, in the form of videos, documents and links, has been found to be beneficial in initiating enthusiasts on the path of innovation. For further information please visit www.innovationclusters.gov.in.

Pilot with MSME (industry) clusters

MSMEs are constrained in many ways both in terms of resources (time, finances, manpower, etc.) and skills needed for innovation. It is also known that most MSMEs are in the informal economy, and engaging them has always been a challenge. Yet, they need innovation to create growth opportunities, as they don't have access to technology, finance, talent and knowledge.

With a view to improve their readiness for innovation, NInC proposed creation of CICs in the local industry bodies or associations. By hosting the CIC in the local industry body, the CIC would gain access to the real needs of the MSMEs in the cluster and could also leverage economies of scale,in the form of members of the association, to forge partnerships with relevant institutions or bodies.

To pilot the CIC model, NInC selected 7 industry clusters, while trying to maintain geographic and sectoral diversity. The initiative has been a Public-Private-Partnership (PPP), with NInC helping to seed the CIC in the clusters and the local industry body pitching in resources to sustain the CIC. Once established, NInC supported the CICs in identifying demand-driven innovation-focused initiatives,

which would be beneficial to all members of the cluster. NInC also facilitated partnerships between the host institution of the CIC and relevant R&D, educational, financial, design, skill and industry mentors among others.

The uniqueness of the model has been engaging with local industry (both formal and informal) in the MSME cluster and using the CIC to act on behalf of the clusters for innovation management locally and to act as a focal point for initiatives. This model, with minimal or zero incremental investment from all partners, has proven that innovation can happen easily in a collaborative way.

Table 2 presents a snapshot of the pilot clusters, the industry bodies involved in each cluster and the partners brought on-board as part of this initiative to address the needs of the clusters.

Cluster	Location	Key Partners
Auto Components	Faridabad, Haryana	IamSMEofIndia CSIR-Central Mechanical Engineering Research Institute, Durgapur ManavRachna International University, Faridabad Department of Industries, Govt. of Haryana
Ayurveda	Thrissur, Kerala	CAReKeralam Ltd. CSIR-National Institute of Interdisciplinary Science & Technology, Trivandrum Kerala Agricultural University, Thrissur Kerala Industrial Infrastructure Development Corporation, Govt. of Kerala
Bamboo	Agartala, Tripura	Tripura Bamboo Mission, Govt. of Tripura CSIR-Central Institute for Medicinal & Aromatic Plants, Lucknow CSIR- Central Mechanical Engineering Research Institute, Durgapur National Institute of Technology, Agartala
Brassware	Moradabad, Uttar Pradesh	Moradabad Cluster Inclusive Development Society CSIR-National Metallurgical Laboratory, Jamshedpur CSIR-Central Electrochemical Research Institute, Karaikudi Metal Handicrafts Service Centre, Moradabad

Cluster	Location	Key Partners
Food Processing	Krishnagiri, Tamilnadu	Krishmaa Cluster Development Society
		CSIR-Central Food Technology Research Institute, Mysore
		CSIR-National Institute of Interdisciplinary Science & Technology, Trivandrum
		Central Institute of Tool Design, Hyderabad
		Tamilnadu Agricultural University, Payyur
		Department of Horticulture, Govt. of Tamilnadu
Furniture	Ernakulam, Kerala	Kerala Furniture Consortium Ltd.
		Rubber Research Institute of India, Kottayam
		CSIR-National Institute of Interdisciplinary Science & Technology, Trivandrum
		MSME-Development Institute, Ernakulam
Life Sciences	Ahmedabad, Gujarat	Gujarat State Biotechnology Mission, Govt. of Gujarat
		Indian Drug Manufacturers Association
		CSIR-Central Leather Research Institute

Table 2: Key partners for a given cluster

Progress

Over a period of 24months, 39 institutions have joined hands for various initiatives in these pilots and have shown promising results. To quote a few examples of successful innovations:

1. **Brassware Cluster, Moradabad:** CSIR-NML has designed a new furnace with reduced fuel consumption, reduced pollution yet higher productivity compared to the existing furnace used in the Brassware cluster. This design technology has hence been transferred by CSIR-NML to a local enterprise in Moradabad for full percolation within the cluster.
   Impact: With an additional investment of INR 4,000/- doubling of artisan income from INR 7,500/- to INR 15,000/- per month
2. **Auto Component Cluster, Faridabad:** The Tod-Fod-Jod centre at Auto Components cluster, Faridabad has been able to provide multiple low-cost automation solutions to MSMEs with the help of students of the ManavRachna International University.
   Impact: 14 low-cost automation solutions; industrial training for students
3. **Food Processing Cluster, Krishnagiri:** Short storage and shelf life of mangoes meant that export consignments could only be shipped by air; that too to nearby locations such as Japan or UAE. With technology support from CSIR-CFTRI, a trial consignment of 10tonnes was sent to UK by sea for the first time from the Food Processing cluster, Krishnagiri and has shown very encouraging results.
   Impact: Doubling of price received by farmers from INR 12/- to INR 24/- per kg.

4. **Ayurveda Cluster, Thrissur:** CAReKeralam has been able to standardize both the formulation and production process of a traditional Ayurvedic drug for diabetes. As a result, the drug will now be suitable for quality certification and open new opportunities for the MSMEs in the region.
Impact: Access to INR 100Cr export market
5. **Bamboo Cluster, Agartala:** Over the years, local ingenuity has given rise to innovations which recude the effort needed in stick making for the Agarbatti industry. Howeve, these local innovations have remained unknown to the 2,00,000 odd artisans in Tripura. TBM has helped stitch together a new improved process using these innovations and has trained 2,500 master artisans on the process.
Impact: Improvement in productivity and 100% increase in artisan income.

The 7 pilots have resulted in 8-10 new products, 10-12 new processes and 2-3 new centres. The effort has been collaborative in nature and preliminary results have come forth in 12-18months. Annexure 1 gives details of the innovation-driven initiatives carried out during the pilot. The following is an indicative list of results from this initiative:

Cluster	No. of Projects	Example Innovation Activity	Expected Benefit	Type of Innovation
Auto Components	3	Entrepreneurship Facilitation Cell	Complete handholding of entrepreneurs	Service
Ayurveda	2	Standardization of Nishakath-akadiKashayam	Standardization leading to acceptance in export market	Process
Bamboo	3	Machines for Agarbatti stick making	Increase income of artisans	Process
Brassware	5	Efficient design for Coke based furnace	Increased income of artisans	Process
Food Processing	6	Cold storage protocols for fruits & vegetables	Increased income for farmers	Process
Furniture	3	Furniture Design hub	Improved product portfolio	Product

Table 3: Results from Pilots

The Indian School of Business, Hyderabad studied a few of the NInC pilot clusters and has published case studies on these initiatives. NInC and IL&FS have similarly published case studies of the journey of these clusters. These case studies are available are available on www.innovationclusters.gov.in.
It is indeed heartening to note that this initiative has been able to open the doors for positive impact in about 85,000 MSME units, employing over 10lakh people; with zero or minimal incremental investments made by all involved. The CIC model has truly proven to be capable of making MSMEs more productive and competitive, while opening hitherto unavailable, unknown avenues for innovation, job growth and socio-economic development. The initiative has also found mention in the Global Innovation Index 2013 Edition , published by World Intellectual Property Organization (WIPO), Cornell University and INSEAD.

National initiative for MSME growth

Realizing the need for synergizing and converging resources, effort being put in by various public, private and multilateral bodies into development of MSMEs using a cluster-based approach, NInC along with the Ministry of MSME and Planning Commission of India are jointly working on creating a framework to enable such collaboration.

This framework will leverage experience and expertise from work done in MSME clusters by all partners and endeavor to provide feedback on optimal utilization of available resources for maximum impact. Presently, collaboration and support is being sought from all public and private bodies, who are stakeholders in providing MSMEs access to technology, finance, infrastructure, skills, market etc. Efforts are underway to finalize the modalities and launch the initiative before January 2014. The following (table 3) have already agreed in-principle to support this initiative:

Ministry of Textiles, GOI	*Department of Electronics and Information Technology, GOI*	*Department of Science and Technology, GOI*
Department of Scientific and Industrial Research, GOI	*Department of Heavy Industries, GOI*	*Council for Scientific and Industrial Research, GOI*
Government of Haryana	*Government of Maharashtra*	*Government of Karnataka*
Government of Tripura	*Government of Jammu and Kashmir*	*Government of Assam*
Indian Space Research Organization	*Confederation of Indian Industries*	*Indian Machine Tools Manufacturers Association*
Association of Biotech Led Enterprises	*Indian Electronics and Semiconductor Association*	*Tata Management Training Centre*
Infrastructure Leasing & Financial Services Ltd.	*Foundation for MSME Clusters*	*Federation of Indian Chambers of Commerce and Industry*

Table 4: Support from various bodies / departments

Pilot with Universities

Universities and other knowledge institutions such as R&D labs give birth to ideas and inventions, which could translate into incremental or disruptive innovations for industry and society at-large. However, there is a felt-need for an effective interface and channel for this knowledge to be directed towards addressing a relevant need. Such application of knowledge and innovation in-turn could spur entrepreneurship; provide solutions to issues like healthcare, energy and others. NInC proposed the creation of CICs in Universities as hubs that will actively seek avenues for application or co-development of knowledge with industry, other knowledge institutions and society at-large. Two Universities viz. Delhi University (DU) and Maharaja Sayajirao University (MSU), Baroda came forward to pilot the CIC model. With support from NInC, the CICs in these institutions have taken up various activities that have enhanced their potential to collaborate with industry, other institutions, while also benefiting the students in learning industry-relevant skills. The following table provides a snapshot of the activities undertaken by the CICs:

	Launch of new degree program on innovation; joint program with JamiaMilia University
Delhi University, New Delhi	Collaboration with Defence Research & Development Organisation (DRDO) and industry bodies such as IamSMEofIndia, PHD Chamber of Commerce among others
	Community oriented projects with students seeking to solve real-world problems
	Programs to promote and fund innovations in affiliated colleges
Maharaja Sayajirao University (MSU), Baroda	Pre-incubation support to entrepreneurs
	Research based on industry demand and with their collaboration
	Collaboration with Association of Biotech Led Enterprises
	Courses on IP, global standards & others to 'fill the gaps' for innovators

Table 5: Activities undertaken by CICs

Progress

One example of a successful industry-academia collaboration brought about by the CIC is a joint initiative by M/s Laila Pharmaceuticals, Chennai, AlluriSitaramaraju University, Eluru and MSU, Baroda. The three bodies have come together to leverage their expertise in carrying out various stages of identification of genetic variants that can explain an individual's susceptibility to cardiovascular diseases. Such collaborations are the need of the hour, where collectively it becomes possible to pursue initiatives that a lone institution may not be able to carry out on its own. Case studies of successful activities of the CIC at MSU are available at Annexure 2 and more details are available on www.innovationclusters.gov.in.

University Innovation Cluster initiative with BIRAC

The Biotech Industry Research Assistance Council (BIRAC), under the aegis of the Department of Biotechnology, GOI has partnered with NInC to replicate the CIC model in 10 universities carrying out research in Biotech domain. Preliminary discussions with 20 Universities have already taken place and the selected Universities for a pilot will be announced by December 2013.

Innovation Clusters

An artisan in the Brassware Cluster,
Moradabad
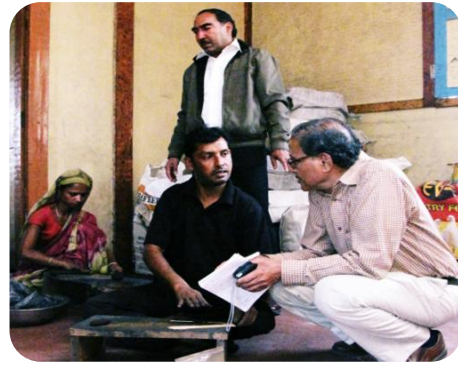
Scientists from CIMAP talks to
Agarbatti unit owner in the Bamboo
Cluster, Agartala

Scientists from CFTRI inspecting
quality of fruit at Food Processing
Cluster, Krishangiri

A women's Self Help Group
undergoes training at Food Processing
Cluster, Krishangiri

NInC team at training in Ayurveda
Cluster, Thrissur

Technology Transfer to Brasswork
Culuster, Muradabad

Nurturing Innovation through Education

Background

Education is the foundation for creating the next generation of innovative thinkers. It can provide the platform to mould and shape the future of our youth to enable it to take advantage of the opportunities of an innovation nation. Inculcating and promoting the spirit of innovation in educational institutions can lay the groundwork for enhancing the impact of innovation in society and in realising our demographic dividend. Apart from fostering innovation in educational institutions, we also need to leverage innovation to bring about generational change in the education system. This is especially critical in view of the massive demand on the education system in India which far surpasses the limited supply. Today, new technology platforms which can alter delivery models and define new approaches to collaborative and multidisciplinary learning are challenging traditional paradigms of learning and providing an unprecedented window of experimentation to move towards the next phase of education. Recognising the fundamental role of education in nurturing and fostering an ecosystem of innovation the National Innovation Council is engaged in a series of initiatives to encourage innovations in existing educational institutions - universities, colleges and schools, as well as promoting new educational models and innovative platforms for knowledge creation, dissemination and application.

Some of the key initiatives taken up by the NInC to nurture innovations through education are given below.

National Innovation Scholarships

In order to complement the current National Talent Search Scheme (NTSE), NInC had proposed the introduction of a parallel stream of National Innovation Scholarships to foster an ecosystem of creativity and innovation amongst the school children. It is proposed to offer up to 1000 scholarships annually targeting students from classes 8th to 12th or children in the age bracket of 12 years to 17 years of age. The scheme will have a multiplier effect by getting parents and teachers to value creativity which in turn will spread a culture of appreciating innovation in the school system. These scholarships, under the Ministry of Human Resource Development (MHRD), will be launched in 2014.

The scholarship is proposed to be in the form of a one-time award, coupled with incentives and support provided at every stage of the innovation cycle as suggested below:

1. For Idea Selection: A one-time award of Rs. 50,000 for group strength of one or Rs. 75,000 for a group of two to five children, five being the maximum number of participants per group. Along with the cash award, a certificate of appreciation, a tablet, and a set of CDs/books for every group member will be provided. The cash award is intended to recognise the value of the innovative idea and to support the group in creating a working prototype. All awardees will also be invited for a regional workshop.
2. For Proof of Concept: An award of Rs. 25,000 (for a group) will be given upon successfully demonstrating the proof of concept, also the innovating group will be provided an opportunity to showcase it at the National Innovation Showcase event.
3. IPR: The innovating group will also be supported for the purpose of obtaining an Intellectual Property Right (IPR) for the idea by means of an amount up to one lakh towards reimbursement.

Students from any background and affiliated to any Board of education recognised by the Government of India, or out of school children can submit their entry for the scheme. MHRD will safeguard the interest of female students, differently-abled children, children from remote and rural areas, as well as students from disadvantaged societies, to actively participate in the scheme by encouraging their entries for the scholarship.

The selected children will also be groomed and nurtured at regional workshops to understand the innovation value chain. They will be encouraged to become an innovator or innovation based entrepreneur. Regional workshops will also encourage young innovators to take their ideas to the next level, and will aim at connecting them to appropriate mentors (both S&T and non-S&T). Five selected regional centres across the country will facilitate the regional workshops every year. They will also enable access to some of their campus facilities like laboratories, equipment, library, materials, internet centre and space for prototyping, etc. The National Innovation Foundation, which has prior experience in conducting selection-cum-search process for young innovators, will be the nodal agency to operationalize this scholarship under the Ministry of HRD.

Progress

The National Innovation Council and the Ministry of Human Resource Development had set up a joint committee to develop the modalities of the National Innovation Scholarships. The committee had submitted its recommendations earlier this year. The Ministry of HRD is currently in the process of forming an EFC note and proposes to launch the scholarships in early 2014.

Setting up Innovation Centre in DIET

To institutionalise thinking on innovation through the most critical resource of teachers, an ideal opportunity exists in re-imagining the District Institutes of Education and Training (DIETs) as hubs for promoting innovation and creativity. A good DIET will make teachers value creativity and give them the ability to spot it in their students, whom they could encourage to pursue their academic passions. DIETs then begin to play a pivotal role in creating an ecosystem of innovation in schools by turning teachers into real educators - "leading them to light", in the original Latin meaning of the word.

NInC has proposed creating an Innovation Centre in each DIET. A District level Innovation Centre will pool in the best teachers in Math, Science, and Social Sciences to lead innovation in the schools of the district. They will develop modules for teacher education, spot talent, improvise on curricula for innovation-promoting activities, and so on. DIETs must provide for taking in part-time faculty to involve local talent in teacher training - creative artists, retired award winners from the teacher category and so on. Private sector professionals and organisations, educational NGOs etc. interested in the area of innovative education may also be considered to assist in the setting up of innovation centres in DIETs.

Progress

Guidelines for the Centrally Sponsored Scheme on Teacher's Education have detailed steps on re-positioning of DIETs in the country. As part of the guidelines it has also been agreed to develop Resource Centres in each DIET which could also double up as Innovation Centres. The guidelines state: DIET can emerge as a hub of educational value through a vibrant resource centre and a centre for teacher learning at the district level. It could bring to use the local knowledge, build on its competencies and integrate the use of educational technologies to facilitate processes of maintaining and disseminating knowledge and skills.

Detailed Guidelines for MHRD's Centrally Sponsored Scheme on Teacher's Training are available with the Ministry.

Mapping of Local History, Ecology and Cultural

To create critical consciousness among students about their local economy, local ecology, local history and local cultural heritage, it is proposed that one week each year should be designated for learning from "society" as against learning "within the classrooms" from teachers. The initiative will drive the local discovery of "jal, jangal, zameen" by students based on observation.

For example, students of Class IX may be engaged in an exercise of AasPaaskiKhoj'. The students will be assisted by a volunteer teacher, and follow a structured format as they undertake a tour of the village around the school. The students could piece together local history, local ecology, map local bio-diversity, local culture, and heritage. The result would be a resource on local history, ecology, and cultural heritage, created by these Class IX students: the Report of the Class of 2012, which the students of 2013 can build on. Support material for such exercises already exists, as do source documents to build on: for mapping local biodiversity, for example, a template exists with the Indian Institute of Science through the work of Dr.MadhavGadgil; UNESCO has developed a template for local heritage conservation.

The greater value of the exercise lies in its ability to create societal engagement for students and gives them an understanding of their rootedness in their local context. The pedagogic value of the exercise is in reinforcing a notion that sources of learning can be multiple: village elders, local crafts persons, local medicine practitioners, traders in markets, socially and culturally disadvantaged groups and so on. This is expected to be an exercise that can pay rich dividends to both students and society.

Progress

The Ministry of Human Resource Development has approved the mapping exercise as part of the RashtriyaMadhyamikShikshAbhiyan (RMSA) scheme. It was also discussed in the First Meeting of Sectoral Innovation Council held on 2nd September, 2013 that mapping of Local History, Ecology and Culture Heritage should be done at large scale.

Setting up a Meta University leveraging the National Knowledge Network

India pioneered the idea of the university with Nalanda and Taxila to explore a life of the mind and undertake an exploration of ideas. Today India is poised to reinvent the University of the 21st century as a new adventure of cross-cutting ideas facilitated by technology. In doing so it seeks to position the university as a cradle of innovation. The National Knowledge Network connecting India's major knowledge institutions is already in place and provides a platform to facilitate this endeavour, further the fact that most of these major knowledge institutions in India are part of a public system, makes collaborative effort easier. Technology offers unprecedented opportunities to "disrupt the classroom" as traditionally understood, provide for individualised and customised learning and radically alter pedagogic systems to move towards collaborative and multi-disciplinary learning.

Seizing these new opportunities and leveraging the platform of the National Knowledge Network, the National Innovation Council has put forward a proposal to create the first global Meta University. The idea of a Meta University was first conceptualised by Charles Vest and later developed by Don Tapscott and Anthony Williams as a Global Network of Higher Learning to be realised in several stages. The basic idea of a Meta University as a collaborative platform where a network of Universities offers students a customised learning experience is eminently applicable in the Indian context.

The National Knowledge Network (NKN) initiated by the National Knowledge Commission, is already being implemented to connect all our universities, research institutions, libraries, laboratories, hospitals and agricultural institutions across the country with a high speed (multi gigabit) fibre based, broadband network. Currently, 1124 institutions are connected on the NKN (list of institutes is provided in [Annexure 2]. The NKN by networking all knowledge institutions and providing them with high speed connectivity aims to facilitate flow of information and create a platform for collaboration between researchers, academic faculty and students from diverse backgrounds and geographies. NKN has several applications such as Countrywide Virtual Classrooms, Grid Computing, Virtual Library, and Network Technology Test-bed amongst others. In addition, the Ministry of Human Resource Development aims to eventually provide connectivity to colleges and schools as well as support content creation through its initiatives. Further, the proposed Universities for Innovation Bill recognise flexibility as its DNA to facilitate innovation. India therefore provides unique opportunities for innovating with this idea of a 'Meta University' given the enormous unmet demand for high quality education in an environment of limited resources and the availability of a dedicated national network. It will enable the breaking down of silos of academic disciplines and help students to gain multi-disciplinary understanding to be able to create more "rounded" intellectuals for society.

The Meta University riding on the NKN envisages a collaborative and multi-disciplinary learning platform, where students enrolled in a primary college or university will be able to take courses available in other universities and colleges. This would allow students, with the help of Mentors, to customise their learning experience and select options from a wide menu of choices, leveraging the specialisation of individual institutions. It will therefore be possible for example, for an engineering student from the Indian Institute of Technology, Kanpur to also enrol for a course in ancient history from Jawaharlal Nehru University; or for a mathematics student from the Indian Institute of Science to pursue a course in comparative literature from Jadavpur University.

The Meta University will reinterpret the concept of a University as not just a traditional, physical space of learning, but as a repository of knowledge and information that can be delivered in multiple ways, and can be accessed from anywhere and anytime. It will seek to enhance the learning experience through new and innovative delivery models of education that allow students and institutions to collaborate in unprecedented ways. This model is low-cost, requires no brick-and-mortar, leapfrogs over conventional bottlenecks of non-availability of a talented faculty pool, and works within existing legal systems. The National Innovation Council is working closely with the Ministry of Human Resource Development and other stakeholders to shape this initiative.

Progress

Under the guidance of the Ministry of Human Resource Development, a Meta University has been established in Delhi with the participation of Jawaharlal Nehru University, JamiaMiliaIslamia, Delhi University and the Indian Institute of Technology, Delhi. These institutions have identified three principal areas viz., climate change, public health and education to concretise the concept of Meta University, with each institution utilising its existing infrastructure and capabilities.

Meta Universities are proposed to be set up in Kolkata, Pune and Hyderabad as well. In Kolkata, the University of Calcutta, Indian Institute of Management and Jadavpur University will be collaborating on the project. Further, ViswaBharati University, Shantiniketan will join the other institutions of Kolkata to set up a Meta University. Similar arrangements will be put in place by participating institutions in Pune and Hyderabad also. In Hyderabad, the University of Hyderabad has been identified as the lead institution for the purpose. The University Grants Commission (UGC) has been asked by MHRD to develop guidelines for universities to set up Meta Universities.

Innovation in Design Education

Design is a key element of the innovation process and will be critical for driving innovation in the new knowledge economy. Design-driven innovations can ensure sustainable competitive edge, enhance industrial productivity and also address crucial challenges by harnessing design thinking for needs-based solutions. Design thinking is especially important for solving key problems because it works with a different set of processes: repeatedly reframing the problem, engaging with stakeholders, prototyping and testing solutions, exploring alternatives, visioning scenarios and so on.

The major bottleneck in clearance of setting up of Design Institutes across the country is availability of land, as well as access with an ambience conducive to professional education and trained and talented faculty. One such campus needs a minimum of 30 acres of land for construction of about 20,000 square meter area of class rooms, studios, hostels, offices, faculty residences etc.

Design Innovation Centres

In this context, NInC had suggested a model of setting up Design Innovation Centres in twenty select locations to be included in the 12th Plan for consideration by the Ministry of Human Resource Development. These could be through co-location in campuses of national repute to ensure maximum convergence, optimum utilisation of existing resources and infrastructure, and to leverage a context of academia-industry interaction. The National Innovation Council is working closely with the Planning Commission and Ministry of Human Resource Development (MHRD) to create a concept paper on design education, which emphasises a "Hub and Spoke" model for the Design Innovation Centres and envisages inter alia that:

1. Some of the Design Innovation Centers (DICs) will be set up by co locating them in existing publicly funded Institutes of national repute to optimally utilise the existing resources and to address the issue of availability of faculty and land. This would also help in networking and will reduce the start-up time. MHRD has approved 5 such Design Innovation Centres to be set up in the current financial year 2012-13.
2. The mandate, structure course content, and course design, shall be innovative and tailored to the needs and requirements of the DIC, keeping in mind factors such as the existing institution's core function, socio-economic challenges, opportunities and realities in the local geographic region, and industry requirements.
3. The DICs shall be free to network and partner with other Institutes depending upon their area of work.
4. Each Centre will offer courses in design and innovation which will be unique and different from those offered by individual departments. The courses to be offered by Centre will be multi-disciplinary and participatory in nature enabling cross registration of courses at both the host institution and the DIC.
5. They would adopt a "Hub and Spoke" model with the Lead Institute acting as the mentor while synergising and leveraging the potential of the Institutes at the field level.

Open Design School

NInC has also proposed that an Open Design School (ODS) be set up to provide free access to design education and learning material for all and is working with MHRD to realise this. ODS would be a technologically forward looking and responsive centre for design innovation and research, as a unique model of transdisciplinary and collaborative education that encourages community participation.

Apart from being a multi-disciplinary design school itself, ODS would follow the Open Courseware model, whereby design courseware would be uploaded and shared on the web, ensuring free access to learning material (which would include video lectures and transcripts, sample student projects, recommended reference material, etc.). This would empower individuals and communities in powerful ways; for example, a village of traditional carpenters could keep abreast with the latest developments in wood fabrication tools and techniques and teach themselves design management practices for small businesses through free access to OCW material .

ODS would support trans-disciplinary and collaborative learning—enabling design students at ODS to take their classroom projects into a collaborative mode or turn them into live projects in the field—by working together with students and faculty from other design schools, academic institutions, social or governmental bodies, industry or NGOs. Such an approach has the potential for tremendous social impact, as classroom projects are transformed into actual implementable solutions, through the inclusion of qualified professionals and organisations in the project team, and through collaborative problem solving.

The National Design Innovation Network

The National Design Innovation Network (NDIN) is envisaged as a network of design schools that would work closely with other leading institutions of industry, academia, NGOs and government to further the reach and access to design education, and would be open for interaction with the general public.

Students would be able to use this Network to access other academic disciplines, industry and policy making bodies to broaden the scope of their university education and go beyond the limitations of their prescribed curricula. For example, a student of textile design with interest in animation could sign up for open electives in a partner animation film school to learn the fundamentals of animation; or an exhibition design student could actively pursue his/her passion for history by jointly engaging with students of history from Jawaharlal Nehru University in co-creating an exhibition space on Indian folk music traditions.

Design schools would use NDIN to work in collaborative, multi-disciplinary teams along with other academic institutions, to bring multiple perspectives and skills to bear on a problem, thereby creating the conditions for innovative design solutions. As this process is adopted in more institutions across the country, we hope that the incremental multiplier effect will result in massive social impact, by encouraging broad-based design innovation in areas addressing the many challenges facing India today.

ODS and NDIN will leverage the National Knowledge Network (NKN) to connect various design, academic, research and governmental organisations and individuals to build a virtual community of design experts, resources and new business models for the future.

Progress

Ministry of HRD along with NInC, Planning Commission and different Central Institutions, prepared a concept note on establishment of Design Innovation Centres. Based on this concept paper, draft EFC Memo for setting up of 20 Design Innovation Centres, One Open School of Design and National Design Innovation Network during 2013-14 to 2016-17 at a total cost of Rs. 241.20 crores is under finalization. In the first phase, it has been prepared to set up 6 DICs during 2013-14. Out of which 5 Institutions for setting up of DICs have been identified. These are IIT- Bombay, IIT-Delhi, IIT-Guwahati, IISC-Bangalore, and University of Delhi.

Igniting Youth Innovation with Tod Fod Jod Centres

Background

Currently, over 300 million Indians are children under the age of 12. Turning even a part of this demographic dividend into an innovation force could alter the course of India's development and mark an important step in transforming our country into an innovation nation. To foster innovation at an early stage and to create an innovative mind-set in the youth, NInC has proposed the creation of Tod fod jod (TFJ) Centres in schools and colleges.

TFJ's aim is to provide a hands-on learning environment/session where students can de-construct, re-construct or re-purpose everyday products that they use daily (like ceiling fan, telephone etc) and link the de-constructed aspects to the concepts, principles they learn in the classroom (mechanics, electrical etc.). These free-form sessions are conducted by "mentors", who are teachers that guide students. The "innovation" aspect is developed during the "Jod" sessions, where students try to apply de-constructed aspects to solve a separate new problem or new application they encounter. TFJ will thus not only allow students to understand the scientific principles behind everyday products they use, but also help them expand their horizons to larger concepts and applications to enable them to solve real world problems. NInC has conducted several TFJ sessions in selected schools and feedback from the students highlights a complete change in their perception of machines and devices. They have become more curious and inquisitive - critical for nurturing an innovative mind-set. Such unique TFJ interactive sessions make learning fun and interactive, and therefore are likely to be remembered, applied and utilized in the future.Details of the TFJ Workshop are available in [Annexure3].

Progress

The Tod fod jod Initiative is being piloted at several locations across India, with TFJ sessions being held at selected schools in Delhi, Vadodara and Karnataka. The pilots are aimed at school students, with different levels of sophistication and hands-on-learning. More than 4,000 kids, mostly rural, have attended hundreds of TFJ sessions. NInC also organised the first-ever Tod fod jodMela in New Delhi on 21st January 2013 to acknowledge the potential of innovative kids and provide a platform for TFJ mentors to share their experiences.

| Location	TFJ Sessions	No. of Schools	No. of Students	No. of Districts	T F J Mentors/ Teachers	TFJ Sessions on
Delhi-NCR	50	17	1,580	1 Urban	20	Mobile Phones, computer mouse, keyboard, mechanical car, electronic toys, table fans, electric iron, toaster, bell, torch, CD player, iPod, Hair dryer, speaker and number other items
Vadodara	14	31	136	1 Urban	6	Ceiling Fan, Telephone handset, Computer, clock, aero models, bicycle, etc
Karnataka	77	71	2521	1Urban 9 Rural	150	Ceiling Fans, Mixer, Clock, Cloth Iron, Bell, Tubelight, Bicycle, etc
Total	**141**	**119**	**4237**	**3 Urban 9- Rural**	**176**	

Table 6: Summary of progress of TFJ initiatives

A TFJ Portal has also been developed as a forum for stakeholders to interact, learn from each other, and share experiences. The content for the portal has been curated by TFJ participants, mentors and experts. The Portal can be accessed at www.tod fod jod.in.

NInC is also providing mentoring support to various States for the implementation of the TFJ initiative. Discussions are also underway with the Ministry of Human Resource Development for incorporation of TFJ efforts into the current education system through various mechanisms.

Tod Fod Jod

Igniting Youth Innovation
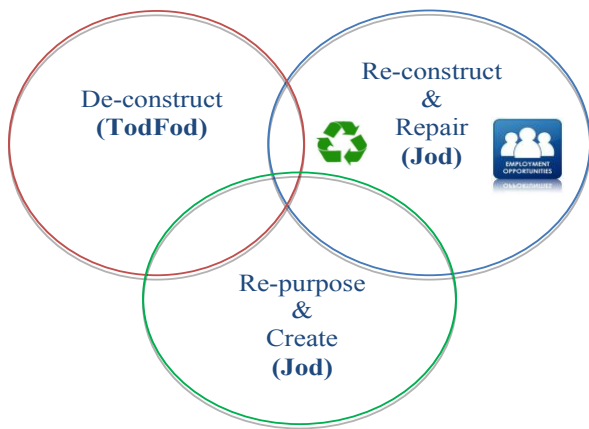
TOD FOD JOD: CONCEPT

TOD FOD JOD: KARNATAKA PILOT

TOD FOD JOD: VADODARA PILOT

Vadodara Innovation Council

TOD FOD JOD: CHALLENGE

Solve real Problems

TOD FOD JOD: MELA

Delhi NCR 21st Jan 2013

TOD FOD JOD: STATE ROLLOUT

Discussion at UP State Innovation Council

Connecting People and Technology for Innovation through Rural Broadband

Introduction

In a span of two years, Government of India's Public Information Infrastructure (PII) programme has provided rural citizens and decision-makers at panchayat, district, and state levels with the transformational power of panchayat broadband connectivity. However, to make the best of this capacity it is essential to assist panchayat communities and decision-makers to drive adoption and usage of panchayat broadband. Unless fully adopted, panchayat broadband can neither democratise information, nor drive accountable government.

The E-Panchayat Experimental Sites (EPES) initiative pioneered by the National Innovation Council seeks to bridge this gap by generating a corpus of practical, field-tested strategies on driving community and institutional adoption of panchayat broadband. These will be designed for the use of panchayat citizens, communities and government decision-makers, and relevant to local operating contexts. Importantly, to ensure that these strategies are practically useful, these strategies will be evidence based – evaluated in field conditions, and assessed by qualitative research (including interviews and group discussions with citizens, communities, and officials).

EPES also seeks to offer a model, capable of wider emulation, on how States can help drive context-specific PII exploitation. The initiative is driven by the Government of Rajasthan, with conceptual, funding, and catalysing support from the Office of the Adviser to the Prime Minister on Public Information Infrastructure and Innovations, and technical support from the National Informatics Centre, Government of India.

Establishing the Trials

Initially ten panchayats within District Ajmer, Rajasthan were identified as EPES: Aradka, Babaicha, Badlia, Chachiawas, Kanpura, Makadwali, Ramsar, Sanod, Shrinagar, and Tihari. It then explored four different aspects, broadly falling within the domains of supply (or service and capacity provision) and demand (or community adoption):

1. Service Provision: Technical Capacity. The project examined the question of ICT capacity at panchayats: given optical fibre connectivity, what level of capability would be needed to effectively address government, community, and citizen requirements at the panchayat? Do existing initiatives (applicable to the pilot locations) address the demand profiles that either currently exist – or that could emerge, given panchayat broadband potential?

2. Service Provision: Human Capacity. The inquiry also examined the extent to which e-panchayats' human resources matched service requirements and demand profiles. To what extent were panchayats' existing staffing capable of meeting ICT needs of citizen? How were the questions of capacity building, training, and skill upgrades addressed? How actively were panchayat staff involved in helping citizens engage and exploit ICT capacities?

3. Service Provision: Applications and Capability (Governance, Core, Domain). A range of applications have already been developed by the Government of Rajasthan and the Government of India, along with National Informatics Centre units at both State and Centre. The EPES trials sought to deploy these in three areas namely – core government, education, and healthcare – and examine the dynamics of service delivery. While a significant number of e-governance trials have already

been launched; there is very limited experience of publicly-funded, government-provided, ICT-enabled service delivery – and community adoption – at the level of the panchayat itself (particularly at the time when the EPES trials were proposed). This owes largely to the lack of any kind of connectivity at the panchayat level, prior to the PII initiative's conception. EPES maintained a particular focus on this question.

4. Demand Side: Community Adoption Capacity and Behaviour. The dynamics of community adoption of ICT-enabled applications and services are a crucial focus area. An emphasis is laid on the manner in which community-embedded workers (such as ANMs and GNMs, school teachers, panchayat officials, and – crucially – citizen volunteers) use ICT capacities placed at their disposal; this is initially monitored, with interventions later brought in (and experimented with) to work around challenges that emerged.

Baseline qualitative studies were conducted across the ten sites; following which – once infrastructure was established – services were established; service models assessed, evaluated and refined; and community adoption and usage of services monitored. The EPES initiative is overseen, managed, and driven by the Government of Rajasthan: via a Secretary-level Project Guidance and Review Group, for broad oversight; an Executive Committee chaired by Secretary Panchayati Raj and convened by the State Informatics Officer, NIC-Rajasthan, for active management and formulation; and a District-level Field Operations Group chaired by the District Collector Ajmer, for field-level implementation and decision-making.

Progress

The technical component of an E-Panchayat Field Service Unit model specification was formulated and developed: specifications designed to enable the ten panchayat locations in supporting basic applications and ICT-enabled services in government, digital literacy, education, and healthcare (including enablement of key Government of India and Government of Rajasthan departmental applications; and access to basic educational and healthcare services, including access to basic remote consultations with district-level doctors).

Further, the manpower component of such a service unit model was also developed, designed to enable stable, reliable services through a group of well-qualified, well-trained staff who can form the basis of a community-engaging e-panchayat. Know-how was established on providing a steady core of governance and developmental services for citizens; and integrating these services with ICT capabilities, through the trained efforts of a functional e-panchayat staff, following established standard operating procedures; along with support from District administrative authorities. All these factors together amounts to an effective, replicable E-Panchayat Field Service Unit model: one that can generate and stabilisepanchayat citizen services around PII nodes.

Crucially, a knowledge base is also being developed around effective community engagement strategies; a community engagement model built on citizen volunteers (known as 'IT Saathis') has been proposed, and will shortly be evaluated at the locations.

Rural Broadband

US President in an interactive video session with students from rural Ajmer

Mr. Sam Pitroda moderating the video session

Delegates from US interacting with people at Gram PanchayatKanpura

Hon'ble President Pranab Mukherjee along with Mr KapilSibal (Minister Comm. & IT) and Mr Sam Pitroda addressing Rural Panchayat

A patient getting ready for a tele-medicine session at a Village Panchayat

Teacher training session at a school in Srinagar Panchayat

Institutional Framework for Promoting Innovation: State and Sectoral Innovation Councils

Background

Innovation is increasingly being seen as the currency of the 21st century. Innovative solutions will impact not only competitive advantages in business and markets, but will provide answers to the most significant challenges facing the world we live in. Governments across the globe are making a concerted effort to design focused strategies for driving innovation.

While innovation has to permeate all sectors and aspects of the economy, special measures have to be taken at the policy level to create the right ecosystem to drive innovation with a focus on financial incentives; regulatory, institutional and competitive steps; and strengthening the knowledge and research base.

As part of its efforts to create a cross-cutting system to boost innovation performance in the country, NInC is recommending State Governments to set up State Innovation Councils which would suggest policy interventions to spur innovation in respective states. It is also recommending creation of Sectoral Innovation Councils aligned to Ministries in the Union Government to address targeted innovation needs of specific sectors ranging from agriculture, food, environment, education and health to IT, supercomputing, textiles, and many more. This initiative was also underlined in the Budget Speech of the Finance Minister (28th February 2011): "In order to promote innovations, the National Innovation Council, under Dr Sam Pitroda, has been instituted to chalk out plans for promotion of innovations in India. Activities for setting up of the State Innovation Councils in every State and Sectoral Innovation Councils aligned to Central Ministries are also underway".

Initiative

While innovation is a result of networks and collaborations among multiple actors, Governments can play a key role in creating the right framework in which these actors can interact. They can create conditions for innovation to flourish, create markets where they may not exist, provide political will, facilitate innovation through development of human capital, investment, policies and processes and create the right vision and partnerships.

Through the setting up of multiple, decentralised Councils, the National Innovation Council aims to create a framework at the regional and sectoral levels to support innovation activities with a focus on devising strategies for inclusive growth, developing co-operation between the different actors involved, understanding the needs of different places and people, with mechanisms for coordination across administrative boundaries and a framework for evaluation. The core ideas, strategies and recommendations devised at the national, State and Sectoral levels will contribute to creating the innovation roadmap for the decade.

The Councils would outline the right combination of interventions in diverse domains that impact innovation including education, trade, investment, finance, and decentralization – to create the right ecosystem for innovation. The Councils will bring unique insight and expertise, encourage the creation of a collaborative and inclusive framework and work towards generating better solutions and better opportunities. In the process they will unleash the huge innovation potential in the country.

National Innovation Council expects that State Councils will both, deepen and widen the support system for innovation, and also identify state-specific themes for innovation and address them. Sectoral Councils will address national challenges faced by the sector which require incremental or break-

through innovations to be able to address them effectively. Both will identify critical constraints and map both opportunities and potential collaboration for collective solution-building. This exercise will create a spin-off organisational culture by being able to recognise that solutions emerge through collaborative action and not by working in silos.

Through these multiple councils the aim would also be to integrate innovation in the long term development strategies and to leverage localised successes to shape innovation initiatives on a broader scale.

State Innovation Councils

The State Innovation Councils (SInCs) will replicate at the State level what NInC is undertaking at the national level to nurture an innovation ecosystem at the State level. The innovation ecosystem consists broadly of five critical ingredients namely, (a) providing a conducive policy framework; (b) offering institutional platforms for inter-agency collaborations; (c) strengthening and expanding ICT connectivity; (d) fostering innovations in the education system; (e) and setting up a regime of incentives and rewards to encourage innovations. The SInCs are expected to carry forward the innovation movement on all these five fronts and present a Roadmap or Innovation Action Plan (IAP) for the State.

Structure and Composition of the SInCs

The aim is to encourage State Innovation Councils to emerge as unique platforms within the Government establishment that bring together policy-makers, leading academicians, researchers, industry members, and eminent professionals to propose ideas for transforming the innovation capabilities of the state. For this purpose NInC had recommended that the Councils include representation from all stakeholders. While the Councils may be set up under the aegis of the Chief Secretary of the State, they are envisioned to be autonomous bodies which would act as platforms for incorporating voices from outside the Government to enrich the knowledge base of the Government. The focus would be on recommending enabling policies and concrete strategies for action for spurring the innovation effort in the State. Apart from the Government representatives, NInC had proposed the following domain experts as members of such Councils:

1. Leading members from Industry and Industry bodies, especially in sectors that have been identified as the core growth areas in the State
2. Members of Professional Organisations depending on sector-specific focus of the Council
3. Heads/ Representatives of R&D, S&T and academic institutions in the State
4. Representatives from incubation/ innovation/ entrepreneurship centres in the State with a proven record of excellence
5. Representatives from the Medium and Small Scale Industries
6. Heads of Social start-ups who have delivered value for sustained periods for the Bottom of the Pyramid needs
7. Members of leading think tanks and policy forums who have been engaging with the State Government
8. NGOs working in the state especially in core development areas such as health, education, agriculture, housing, urban/rural development
9. Leaders who have championed growth and development in particular sectors depending on the focus that the Government wishes to give the Council.
10. A Member of National Innovation Council to provide the national and global perspective.

Further, NInC has recommended that the proposed Councils tap into, as well as integrate with, existing mechanisms and platforms for spurring innovation at the local level. One such mechanism is the District Innovation Fund, recommended by the Thirteenth Finance Commission, under the purview of the Department of Expenditure, Ministry of Finance, Government of India. Under the said Scheme, an amount of Rs. One crore per district has been allocated for innovative activities. NInC has also nominated its members as mentors for the SInCs to ensure that the latter has access to the best national expertise in the innovation space while formulating its strategies and initiatives. Intensive discussions have been held during the year by the Mentors and the representatives of the NINC in 16 States and UTs namely, NCT of Delhi, Rajasthan, U.P., J&K, Andhra Pradesh, Maharashtra, Gujarat, Assam, Karnataka, Bihar, Goa, UT of Chandigarh, Himachal Pradesh, Odisha, Tamil Nadu and Sikkim for acceleration of the innovation-driven initiatives, and for formulation of the Roadmaps/Innovation action Plans (IAPs) for the Twelfth Plan period.

NInC is also encouraging the State Governments to especially look at some of the national level innovation initiatives, pioneered by the Council, which could be replicated at the State level to enable the State Governments to formulate their Roadmap or Innovation Action Plan (IAP).

Progress

As of date 28 States and UTs have constituted the SInCs. The region-wise details are provided in Annexure 4. The latest entrants are the States of Kerala, Gujarat, the NCT of Delhi, and the Union Territories of Dadra & Nagar Haveli, and Daman & Diu, and Sikkim. The States of Andhra Pradesh, Maharashtra, and Odisha, and the Union Territory of Chandigarh are poised to form them shortly.

Most of the State Governments which have formulated the Councils have focused on the multi sectoral nature of these platforms and anchored them in the Planning Departments of the State Governments, with the Departments of Science & Technology and Education as the nodal pivots to support the campaign. The focus of most of the Councils has been on areas such as Planning, S&T, Education (both School, and Higher including Technical), Industry, Agriculture, Rural Development, Urban Development and Information Technology.

Some State and Union Territory Innovation Councils have taken laudable initiatives. Details of some of these measures are provided in Annexure 5.

Sectoral Innovation Councils

The Sectoral Innovation Councils are expected to drive the innovation agenda in the country across various sectors and harness the core competencies, local talent, resources and capabilities to create new opportunities. The Councils will also work towards creating a roadmap for the decade for the particular sector. The Sectoral Innovation Councils would look at cross-cutting themes that impact the sector and hence work collaboratively with other Councils in that domain.

The focus would be on undertaking activities that improve the innovation quotient of the sector going forward, with a special emphasis on inclusive and sustainable innovation. The policy interventions and recommendations would be outlined in a Roadmap for Innovations for 2010-2020. Simultaneously, the Councils would also undertake initiative in the specific sector which has emerged out of the insights captured in the recommendations.

Progress

25 Ministries and Departments have formed Sectoral Innovation Councils so far. Roadmaps have been submitted by 7 Ministries and Departments viz Fertilizers, Health and Family Welfare, Informa-

tion & Broadcasting, Power, Petroleum and Natural Gas, Science and Technology and Telecommunication. The Reports have been uploaded on our website www.innovationcouncil.gov.in

Roadmaps by 4 more Ministries and Departments are at an advanced stage of submission viz. Pharmaceuticals, Industrial Policy & Promotion, Commerce, and Labour. The Roadmaps are also under formulation by the Ministries/Departments of Earth Sciences, Posts and Drinking Water and Sanitation, and Textiles.

The National Innovation Council's initiative to set up multiple innovation Councils, both at the State and Sectoral level, is a first of its kind Government effort where a large constituency is being galvanised around the idea of innovation. The Councils are not only recommending strategies and policies for driving innovation, but by expanding the discourse on innovation and by empowering domain experts across areas, an innovation movement is being created. Further, by sensitising State Governments to the idea of innovation, the Councils are also ensuring that innovation becomes a focus area in the long term development agenda of the States.

Other Initiatives

Apart from the focus on State and Sectoral Innovation Councils, NInC is also working with relevant Ministries and other stakeholders to develop a national level policy on Innovation. For this purpose, it has already initiated several rounds of brainstorming to get inputs from a wider cross-section of people. NInC has also provided inputs on the innovation chapter for Government of India's Twelfth Five Year Plan. Further, NInC has also been engaged with the Performance Management Division of the Cabinet Secretariat to engender innovation in Government, which is also reflected in the Results Framework Document.

Inspiring Imagination for Innovation

Background

Prizes, challenges and crowd sourcing can be powerful agents of social change. In a very short time, they can focus public attention on particular problem areas; excite individuals and communities to innovate; influence public perception; and celebrate innovations and the efforts of innovators. Traditional problem solving approaches and abilities are fast disappearing and giving way to these new methods because of new tools, technology and particularly the internet and social media. Governments across the globe are making concerted efforts to design focused strategies around prizes, challenges and crowd Sourcing for driving innovation to accelerate the pace of change and development. The National Innovation Council, as part of its strategy to create an Indian model of innovation and development, has been encouraging the use of prizes, challenges and crowd sourcing as tools for promoting Inclusive Innovation. NInC conceptualised the 'One MP - One Idea' annual competition; launched the anti-drudgery challenge in Oct 2011; and is experimenting with various new media platforms for crowd sourcing ideas and action.

Innovation Spaces at Science Centres

The potential of Science Centres across the country as instruments and agents of percolating scientific temper, innovation, and therefore socio-economic developmentis underutilised. Though non-formal education through Science centres took root in India more than 50 years ago, the impact of these institutions has been less compared to global precedents. Notwithstanding the need for more science centres in the country, NInC has recommended creation of Innovation spaces at Science centres. The following are ten recommendations on how such Innovation Spaces may be created at Science Centres:

1. **Hall of Fame: Innovations:** Showcase 10 innovations/discoveries in various domains, with focus on Indian/local innovations (for example: Transistor- ICs, Wireless - Telecom, DNA- Genetics, etc.)

2. **Hall of Fame: Innovators:** Present life stories of 5-10 innovators in various domains (for example: C V Raman, Albert Einstein, Steve Jobs, recent Nobel laureates, etc.) with special focus on Indian innovators.

3. **Innovation Challenges for a Better Tomorrow:** Present 3-5 (innovation) Challenges we face today, with focus on Indian/local challenges (for example: health, climate change, energy, water, food security, etc.)

4. **Local Innovations and Traditional Knowledge:** Present 3-5 local innovations and showcase ideas/applications of traditional knowledge (for example: Ayurveda, traditional water harvesting, traditional architecture, etc.)

5. **Gadget Technology:** Communicate the science and technology behind gadgets of daily use (for example: computers, washing machines, electric stoves, refrigerators, etc.)

6. **Emerging Technologies:** Showcase emerging technologies (for example: fuel cells, nanotech, green tech, etc.)

7. **Industry Sponsored Section:** Create a section run by prominent/local industry, showcasing the technology they use in their industry (for example: mining industry, petroleum industry, auto industry, etc.)

8. **Innovation Programmes of Government:** Showcase programmes and schemes of Central and
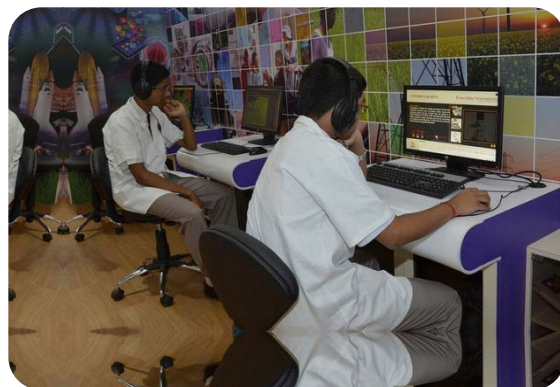
Innovation Spaces at Science Centres

Mr Sam Pitroda launches Innovation Hub at BITM, Kolkata

Award ceremony at BITM, Kolkata

Student enjoy demonstrating their science projects to Mr Sam Pitroda

Students immerse themselves in the life and work of famous innovators in the Hall of Fame

Students engaged in Tod Fod Jod activities at the Innovation Hub

Volunteers engaged with students and helping them in their science project

State Governments promoting, supporting and fostering innovation (for example: National Innovation Council; programmes of DST, DBT, DSIR -TePP, OSDD, TKDL; National / International Innovation awards.)

9. **Annual Festival of Innovation:** Hold inspirational talks, interaction with young and local innovators, screening of special films/documentaries, contests and competitions inviting solutions for specific local challenges

10. **Access to portals and online resource materials:** Provide access to online resource materials and interesting portals such as the India Innovation Portal, India Biodiversity Portal, India Water Portal, India Environment Portal, etc. A dedicated space should be created where several internet connected computer terminals must be provided by the centre.

Progress

NInC's recommendations for science museums have been included in the 12th Plan as follows: "Digitisation of collections in all museums to facilitate accessibility through a virtual museum portals including 3D exhibits and virtual 3D tours; making museum websites more dynamic, interactive and social-media enabled to attract online participation; creation of innovation spaces in museums based on framework provided by the National Innovation Council"

The National Innovation Council is currently piloting the innovation space concept with the National Council of Science Museums (NCSM). The first innovation space was launched by Mr. Sam Pitrodain August 2013 at BITM, Kolkata. NCSM is also creating innovation spaces at their science centres in Delhi, Bangalore, Mumbai and Guwahati which will be operational by December 2013

NInC's New Media Initiatives

The National Innovation Council has been a lead user, a driving force and a role model in establishing experiments in use of new media by the Government of India. NInC has been experimenting and showcasing ways of leveraging the power of networks, crowd sourcing and social media to bring communities together to discuss debate and explore solutions to a variety of challenges. NInC has tried various experiments as mentioned below, some of which were a global first and the some others a national first.

Progress

1. *NInC has established a strong presence on various new media platforms with a cumulative following/viewership of about a million a month. NInC is present on Twitter, YouTube, Facebook, Slideshare, Flickr, etc. NInC now regularly disseminates information and updates on various initiatives through these new media platforms.*

2. *NInC has organised several international Twitter conferences on subjects like 'Democratisation of Information', 'Innovation', and 'Mahatma Gandhi', which saw the participation of several thousand people from over 50 countries.*

3. *NInC in partnership with the Planning Commission, made efforts to disseminate and popularise India's 12th Five Year Plan through new media. This initiative entailed launching a Hackathon on the 12th Plan to crowd source communication ideas (applications, short films and visualisations) based on the 12th Plan, and also organising a Google Hangout Session to discuss the 12th Plan with various stakeholders. This initiative helped the Planning Commission to establish its presence over various new media platforms, and is now leading to dedicated efforts on the part of the Planning Commission for regular dissemination of information and interactions via new*

media platforms;

4. *NInC organised one of the largest ever virtual public lectures via the National Knowledge Network, where more than 4 lakh students across 100 different locations in India attended a live session by Dr. Sam Pitroda and Dr. Michael Sandel, and asked questions via Twitter.*

5. *NInC addressed 10,000 teachers from more than 150 locations across India on education reforms by using the National Knowledge Network (NKN);*

6. *NInC mooted the idea of Innovation Spaces at Science Museums, with representatives of more than 30 science centres across the country using the NKN - making it the first ever virtual meeting of all science centres in the country;*

7. *NInC has created a Virtual Science Museum channel on YouTube, which has aggregated more than 500 videos that offering engaging content on science, technology and innovations [www.youtube.com/VirtualScienceMuseum];*

8. *NInC is capturing and sharing its entire effort and experience of the Tod-Fod-Jod initiative on a Facebook.*

9. *NInC also set up a Media Innovation Inquiry Group to develop a roadmap to indicate how a media innovation ecosystem for, and driven by, India's bottom 500 million citizens could be created. The Group has submitted its recommendations to the Council and these are under discussion.*

10. *All the above have been first steps in engaging with interested stakeholders using new age tools and techniques. NInC will continue these efforts in the future and hope to make such interactions popular, more engaging and move towards crowd sourcing for 'action' rather than just 'ideas'.*

Crowd Sourcing Initiative

Governments, multilateral organisations and private organisations are using the crowd sourcing approach as an instrument to focus the energies and attention of a wider audience on areas of interest-while also crowdsourcing ideas and solutions for the issues at hand. The National Innovation Council (NInC) in collaboration with the Planning Commission of India organised the first ever Hackathon by the Government of India to help percolate the vision for the nation as envisaged by the 12th Five Year Plan. TheHackathonbrought together professionals and enthusiasts from various walks of life, like programmers, graphic designers, user interface designers and others, to develop visualizations, short films and software applications based on the 12th Plan that could either showcase the impact of the plan or would support in achieving the vision that is envisaged by the plan.

The 12th Plan being a voluminous document, a selection of sectors and focus areas therein were announced for participants to choose from. The event was conducted on the 6th and 7th of April 2013, at 10 different locations simultaneously, with online participation also being an option for those interested. Data Portal India (www.data.gov) provided the online platform for the event and educational institutions including Delhi University, IITs at Delhi, Kanpur, Kharagpur, Madras, IIIT-Hyderabad, IISc-Bangalore, TISS-Mumbai and University of Jammu came forward to open their campuses for the event. Along with the partners, a joint team of youngsters from both NInC and PC ensured the successful completion of the event. Close to 2,000 people registered to participate in the event, across all age groups and including students, software professionals, designers, media professionals, creative professionals, government employees, members from NGOs and others.

A unique feature of this event was the extensive use of newmedia. The event kicked off on the morning of the 6th April with Mr Montek Singh Ahluwalia, Deputy Chairman, PC and Mr Sam Pitroda, Chairman, NInC addressing the participants via the National Knowledge Network. Later in the day, experts from PC who had worked on the select sectors of the 12th Plan presented the overview of their respective sectors and answered questions from the participants via Google Hangout and Facebook. The interactions on the selected sectors with Advisers and experts from the PC were handled through

open Groups on Facebook, making the engagement open for all. An estimated 10,000 people were spectators to the 32 hours marathon event as the entire interaction was open and online.

Progress

The winning entries have all been made freely available (along with relevant source files) for download under open licensing terms, accessible to anyone who wishes to use them. This is also a unique step towards encouraging the Open-Source movement in all fields. In all, 220 entries were received and the details of the winners are available on www.data.gov/hackathon/winners.
The initiative has paved the way for new ways of government-citizen engagement and crowdsourcing ideas using new media platforms.

Innovation Challenge to Reduce Drudgery

NInC is also using national challenges to inspire inclusive innovation. The first challenge launched by the National Innovation Council was a call for proposals launched in October 2011 to reduce the drudgery of the working class population. The challenge sought innovative ideas in the areas of design improvement of work implements, better processes, new equipment and techniques for different occupational groups like blue-collar workers, street-vendors, and construction workers. This went with the caveat that proposals should not be labour displacing.

468 proposals were received in a period of 4 months and finally 6 proposals were shortlisted after several rounds of screening. These proposals were sent by institutions and individuals from all backgrounds such as students, engineers, government officials, professionals, and teachers amongst others. The 6 winning innovations included a novel design of a rickshaw, a human powered motor, a display unit for street vendors, a low cost cycle for physically challenged, and devices to reduce the drudgery of construction workers and sanitation workers.

The Entrepreneurship Development Institute of India, Ahmadabad (EDI) provided training to two finalists of the Anti-Drudgery Challenge,also helped them to convert their ideas into a business plan with support from the EDI faculty, provided them exposure through institutional visits and built their confidence to take up a social venture.

One MP - One Idea

Indian democracy is hailed as one of the most successful political models around the world. Drawing inspiration from it, the 'One MP-One Idea' leverages the power of India's people through their chosen representatives. This competition will generate and select ideas by galvanizing all constituencies through the Members of Parliament (MP). The MPs will become champions of innovation in their constituencies by campaigning for innovative ideas that have the potential to solve regional and national challenges.

1. The MPLADS guidelines issued by MoSPI are placed at [Annexure 6]
2. Solutions can be submitted by any individual or teams or institutions from the constituency
3. The Competition, held annually, will invite innovative solutions in the areas of education and skills, health, water and sanitation, housing and infrastructure, agriculture, energy, environment, community and social service, etc.
4. The Selection Committee will select the three best innovations for cash awards and next five best innovations for certificate of appreciation
5. Cash awards of Rs. 2.5 lakhs, Rs. 1.5 lakhs and Rs. 1 lakh will be awarded to the first, second and third prize winner respectively (funded from MPLADS)
6. The awards shall be given away by the Hon'ble MP in a public function with adequate media coverage
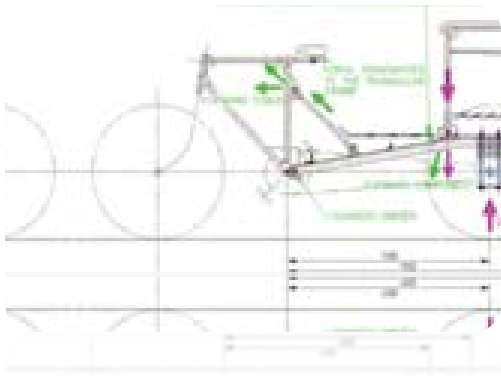
Innovation Challenge to Reduce Worker Drudgery

HUMOTOR: A Humane Way of
Utilizing Human Efforts
Dr. Sandipan Bandhopadhyay and team

Vessel Desk for Construction Workers

Raghunath Pandurang Lahar

An Innovative Design of a Rickshaw

Pratik Kumar Ghosh

Display Unit for Hawkers/ Street Vendors

Solve real Problems
Manjunath Butta

Cycle For Physically Challenged
Ajith T. Alex, Aanand Ganesh, Mahesh P.V

Picking Grab for Sanitation Worker
Jitendra Nath Das

ICT Innovations in Judicial System

Background

"JUSTICE, Social, Economic and Political" is the spirit and vision of the Constitution of India. The Prime Minister, at "The Conference of Chief Ministers and Chief Justices" held on the 16th of August, 2009, described the huge arrears and case backlogs as the "scourge" of the Indian legal system. An equitable and accessible system of justice is fundamentalfor democratic governance and human development. In recognition of this and paying heed to the Prime Minister's words, the Ministry of Law and Justice convened a National Consultation for Strengthening the Judiciary towards Reducing Pendency and Delays (24-25 October 2009) which established the following framework:

- **Vision** – Timely Delivery of Justice to all
- **Mission** – To strengthen the Judiciary towards reducing pendency and delays
- **Objective** – Reducing the pendency of arrears from 15 years to 3 years

The direction provided by the then Chief Justice of India was to focus on –

1. Human Resource Development
2. Infrastructure Development
3. Technology Program
4. Policy changes
5. Process Reengineering

The National Legal Mission was born out of the collective wisdom of all those whoattended the consultation and was established by the Ministry of Law and Justice under the chairmanship of the Union Minister of Law and Justice.

Courts of Tomorrow

The Office of Adviser to Prime Minister on Public Infrastructure and Innovation was also tasked by the Prime Minister to explore the use of Information and Communication Technology in the Justice System. The Office of Adviser then devised a framework titled the Courts of Tomorrow[Annexure 7] and seeded the idea of an Integrated Criminal Justice System in the National Informatics Centre and the CBI.

Progress

The Courts of Tomorrow document spurred a number of initiatives across various High Courts and most notably the Department of Law and Justice establishedthe Model Courts Scheme based on the Courts of Tomorrow framework. The Government of Madhya Pradesh has also commissioned a study to prepare a detailed project report for implementing the Courts of Tomorrow program across Madhya Pradesh. Various elements of the Courts of Tomorrow framework have also been incorporated into the E-courts Mission Mode Program as well other ICT initiatives by the courts.For example, the Department of Posts, Government of India, and the High Court of Delhi are collaborating on a system whereby the Department of Posts will enable delivery of summons, a cause of much delay, within seven days.

The recommendation of an integrated e-Justice system resulted in a document titled the Integrated Criminal Justice System that was prepared by the National Informatics Centre, Government of India.

A Pilot project has been initiated in Delhi that will serve as a model for the rest of the country. The Central Bureau of Investigation has also envisaged interest in the concept. A document in this regard has been prepared and submitted to the Government of India.

Integrated e-Criminal Justice System

At the end of 2012, there were approximately 3.1 crore cases pending in various Indian courts with approximately 65% of these being criminal cases. Most years the number of criminal cases pending in our courts increases by about 5%. Delivery of timely justice in criminal cases requires that all parts of the system including those defined by the Code of Criminal Procedure and other statutes function in a coordinated manner.

The availability of Information and Communication Technology (ICT), its expanding and extensive deployment and reach, and people's growing familiarity with its use create opportunities to reengineer processes within the criminal justice system to realise greater speed, efficiency, transparency and reach of the justice system. Even though the justice system is made up of various parts and has at least four component sub-systems that are by design independent, processes run across component sub-systems.

The four principal component sub-system of the criminal justice system are courts, law enforcement and investigation agencies, the prosecution wing and prisons. ICT initiatives to improve the functioning of these components (e.g., the e-Courts Mission Mode Program, Crime and Criminal Tracking Network System, Central Integrated Police Application, e-Prison etc.), have been designed as independent systems, with no interfaces or recognition that functionality and processes run across other sub-component systems that make up the justice system. Neither have these initiative been functionally designed to dramatically improve the stand-alone work flow of each of the component sub-systems. Additionally, supporting components like forensic labs, government hospitals, postal services etc., that provide services to the criminal justice system need to also be appropriately interfaced, with the criminal justice systems, since they also affect the timeliness and efficacy of the justice system.

So far, there has not been any attempt to take a holistic, system-wide approach, which will enable continuity of processes and provide seamless exchange of data at the interfaces of component systems to reduce the inherent delays and improve the efficacy of the justice system.

Progress

In order to make a truly transformative change in the justice system, reduce delays and improve overall efficacy, we have to first recognise that the justice system is not a sum of its parts. Solutions and interventions have to be designed, developed and implemented viewing the justice system as a unitary system made up of many independent component sub-systems that need to be interoperable, appropriately standardised across and the country, and most importantly interfaced and integrated as far as cross-component processes are concerned.

Therefore the idea of an Integrated Criminal E-Justice System was seeded by the Office of Adviser to Prime Minister PIII in discussions with the National Informatics Centresand discussed with various authorities including the Prime Minister's Office and the Cabinet Secretary. The Cabinet Secretary convened the Committee of Secretaries which established and approved the ICJS program. A concept note was prepared by NIC and a Pilot in one district of Delhi has been funded by the Department of Information Technology, Government of India. The Pilot is being developed and implemented by a Steering Committee Chaired by Justice Madan B. Lokur, Judge Supreme Court of India, nominated by the Chief Justice of India to lead this pioneering initiative.

Partnering for Innovation:Collaboration and Networks

Background

Platforms for collaboration and networking can have a significant impact on driving innovation in the knowledge economy. Globally, the value of creating shared pools of knowledge for collective solution building is being recognised. These platforms enable sharing of ideas for needs-based solution building, leveraging existing knowledge, sharing of real time information and cross-fertilisation of thinking. In an increasingly globalised world, these mechanisms of collaboration become even more significant to leverage the most innovative thinking from around the world to create global networks for research, cooperation and co-creation. Advances in information technology have further revolutionised the kind of collaborations and networks that are possible in the new knowledge economy arnd this holds unprecedented potential for the quality of innovation.

Global Innovation Roundtable

Most governments around the world are prioritising innovation as they realise that promoting innovation is the key for a nation to become more productive, stay competitive and sustain economic growth. To foster collaborations on inclusive innovation, exchange ideas for knowledge sharing and collective solution building, the National Innovation Council has launched a Global Innovation Roundtable as an annual policy platform. Through institutionalising the Roundtables, the aim was to create a global platform for sharing experiences, best practices and enabling collaborations around the theme of inclusive innovation for addressing the challenges of access, equity, excellence and inclusion.

The aim was also to bring India at the forefront of showcasing pioneering innovations in this space and emerge as a model for sharing them with other nations facing similar development challenges. The First Global Innovation Roundtable was held in New Delhi on 14th-15th November 2011, in collaboration with the World Bank Institute. The heads of innovation from 15 Governments were invited to come together to discuss the role of innovation in improving growth and welfare. The key objective of the Roundtable was to explore the relatively less charted road of broad-basing innovations to meet key development challenges, share cross-country experiences and develop a paradigm for inclusive innovation. The countries represented included the U.K., the United States of America, Australia, France, Canada, Mexico, Israel, Sweden, Netherlands, Brazil, Germany, Japan, South Africa, and EU. The Roundtable focused on stimulating greater global cooperation across countries and formation of networks, sharing experiences to make innovations a prime driver for collective solution building, and discussing innovations that have addressed the needs of the Base of the Pyramid (BoP) population.

During the first day, four sessions on 'Global Innovation Ecosystems,' 'Dreaming It and Doing It,' 'Learning from Global Good Practices,' and 'Developing an Innovation Ecosystem' were held. During the second day, three sessions on 'Taking Innovations to Scale,' 'Innovation and Intellectual Property,' and 'Global Collaboration on Innovation' were held.

The Roundtable gathered diverse perspectives and accessed global knowledge on innovation as a means to create sustainable and cost effective solutions for the BOP population. It also drew significant support from the Indian government. The Prime Minister of India, while releasing the National Innovation Council's 'Report to the People' on the second day of the Roundtable stated, "We view innovation as truly a game changer to move from incremental change to radical change. It is, therefore,

our resolve to build an enabling environment for innovation to flourish in our country."

The discussions echoed the need to have a long-term approach to fostering innovation. It was also stressed that the public sector, private enterprises, social sector and venture capital industry need to partner and support programmes and policies that enhance the national innovative capacity. In making this happen, universities, industry and research institutes need to play a multi-faceted role in cultivating innovation by creating public knowledge exchange platforms, promoting problem solving skills, and fuelling innovative research.

To propose further collaborations and knowledge exchange to mobilise resources, and continue the systemic focus on promoting inclusive innovation, NInC hosted the Second Global Innovation Round table on 1st and 2nd November 2012. The Round table saw participation from heads of Innovation policy from 20 Governments across the world and leading global Innovation experts and the key objective of the Round table was once again to develop a paradigm for inclusive innovation and share experiences with stakeholders. The Round table also saw the presentation of the National Innovation Council's annual 'Report to the People' 2012 to the Hon'ble President of India Shri Pranab Mukherjee at the Rashtrapati Bhavan.

The Round table focused on innovations related to meeting the needs of inclusion, access and equity; and leveraging new tools and technology in the 21st Century to scale and sustain innovative solutions. In this context, the sessions covered topics such as 'Crowdsourcing Innovations'; 'Financing Inclusive Innovation'; 'Learning from Global Good Practices'; 'Towards an Innovation Ecosystem'; 'Innovations for the Bottom of the Economic Pyramid'; 'Enhancing Productivity through Innovation in Clusters'; 'Industry-Academia Interface for Driving Innovation'; 'IPR and Innovation'; and 'Innovations in Government'. The Roundtable was followed by a Global Twitter Press Conference to reach out to Indian and international media.

At the conclusion of the Roundtable, the following areas were outlined for collaboration:

1. Open Government: The Platform already developed by India and the US for this could be adopted by other countries, and India could help implement.
2. Crowdsourcing Innovation Platform: The Open Source Drug Discovery Platform developed by India for tuberculosis drug discovery could be used as a template for crowdsourcing in new areas of drug discovery.
3. Innovation for Education: Existing educational content could be aggregated, filtered and indexed, under the guidance of global domain experts and made available on mobile devices.
4. Innovation for Health: Health content could also be aggregated and made available, just like educational content. Further, India's initiative for an Open Source Electronic health records system and tele-medicine could be adopted by other countries.

Progress

This year the National Innovation Council is hosting the third edition of the Global Innovation Roundtable on 18th and 19th November where heads of innovation policy from 50 Governments are coming together to discuss innovation perspectives and share best practices. To provide a long term, institutionalised focus, this year the Ministry of External Affairs is collaborating with NInC to host the Roundtable.

Open Government Platform (OGPL)

During US President Barack Obama's visit to India in November 2010, President Obama and Prime Minister Dr Manmohan Singh agreed to work together to exercise global leadership in support of open government and democratic values. The two leaders launched a U.S.-India Open Government

Dialogue with a view to harness public-private partnerships, using new technologies and innovations, to promote their shared goal of democratising access to information and energising civic engagement, supporting global initiatives in this area, and sharing their expertise with other interested countries. The Dialogue was led by the Adviser to the Prime Minister, Mr Sam Pitroda, on the Indian side and then White House Chief Technology Officer Mr Aneesh Chopra on the US side.

Subsequently, the two countries worked together to develop an Open Government Platform (OGPL) to promote transparency and greater citizen engagement by making more government data, documents, tools and processes publicly available in useful machine-readable formats to develop new applications for citizen benefit. OGPL combines and expands the best features of the U.S. "Data.gov" and India's "India.gov.in" sites, and will be offered freely to other governments using the open-source model (hosted in GitHub) and community to provide future technology enhancements, implementation practices and technical support.

The purpose of the platform is to enhance access and use of government data to foster innovation; improve delivery of government services for interested countries and cities around the world; and promote government transparency, accountability, and public participation. OGPL is more than just a software product – it also includes documentation to help governments create their own national data sharing policies.

OGPL's initial version was released on 30th March 2012 and implemented in India's data-portal (http://data.gov.in)to provide single-point access to all data-sets published by the Government in an open format.Simultaneously, a National Data Sharing and Accessibility Policy (NDSAP) was announced by the Government of India on 17th March 2012. NDSAP mandates all Ministries/Departments to release maximum possible datasets (non-sensitive) in the public domain.

Features of OGPL

The core of OGPL is the data, documents, tools, processes that governments will share and an on-line community that engages citizens on their data and information needs. OGPL will then facilitate the development of new applications that will be created by developers around the world for benefit of citizens. The open source format of OGPL has facilitated cost-saving in terms of software and licences and also the enablement of community participation for its further development in terms of data visualisation, consumption, application programming interfaces (APIs) to access data-sets, etc. It has well-defined meta-data, and data-sets contributed get validated through a workflow process before being published on the portal.

To support wider reach and dissemination of data-sets, anyone can share information about any data-set published on the portal on his/her social media pages by simply clicking on social media connector button. OGPL also has a strong component for citizen engagement. People can express views and rate data-sets on a five-point scale on the three aspects of quality, accessibility and usability. They can also embed the data-sets in their blogs or on web-sites. People with specific interest can build communities and discuss online in forums or through such blogs, and such discussion could centre around published datasets as well as apps including on the kind of data-sets and apps, they would like to have. Good analytics have been developed to monitor and manage open data on the three dimensions of metrics, analytics and feedback from users. Facility to contact data-controllers, who authorise release of data-sets for placement on OGPL, is also available.

OGPL could be offered to any the interested country or public organisation to quick-start their open government initiative as the platform is robust, scalable, available in open source, and easily configurable. It could be used to publish different catalogues, be they data-sets, apps or documents, and even provide services. It could also be used to manage and monitor the open government initiative of a country/agency/organisation. The citizen engagement module of OGPL could give first-hand information to decision-makers on citizen needs and the kind of information sought by them.

Current Status

OGPL platform v1.0
* Has been implemented in India's data-portal (http://data.gov) to provide single-point access to all data-sets published by the Government in an open format, as per the Government policy on release of data in the public domain. Currently, 4816 data sets are available on the portal for use by relevant stakeholders and the larger community.
* Has been implemented in the US (http://data.gov)
* Has been implemented in a third party country Ghana, by the joint support of India and USA technical teams
* Rwanda implementation underway, expected to be completed in 2013

With the launch of OGPL comes the opportunity to engage the public in improving government transparency and accountability – not only for the governments of India and the United States, but any country seeking to open their data to the world. This is an excellent example of intergovernmental partnership in openly sharing capabilities and code, and forging a commitment to continue to operate into the future on a shared, open platform. The bilateral collaboration itself has innovated in government development programs by conducting a joint technical project using new media tools like Skype and GoogleDocs and open source technologies like GitHub to build the OGPL software in less than 6 months (with only one face-to-face meeting of the US and India technical teams to kickoff the project).

On the Indian side, the support of the Ministry of External Affairs has been critical and the technical leadership has been provided by the National Informatics Centre, Government of India.

Progress

OGPL's initial version was released on 30th March 2012 and implemented in India's data-portal (http://data.gov) to provide single-point access to all data-sets published by the Government in an open format. Simultaneously, a National Data Sharing and Accessibility Policy (NDSAP) was announced by the Government of India on 17th March 2012. NDSAP mandates all Ministries/Departments to release maximum possible datasets (non-sensitive) in the public domain. Currently, 4816 data sets are available on the portal for use by relevant stakeholders and the larger community.

India-EU Prize for Affordable and Inclusive Innovation

Prizes and awards are increasingly becoming visible and effective policy tools to spur innovation. The inducement and recognition provided by Governments, and the private and philanthropic sector through prizes encourages a larger pool of problem solvers to apply their talent and thinking to solving critical challenges, national or international.

The National Innovation Council (NInC) and the Delegation of the European Union to India have been in discussions to collaboratively develop and launch an Indo-European prize for affordable and inclusive innovation. Some key elements of the prize design would be:
1. Awarding Indians and Europeans working together: togetherness and collaboration
2. Awarding the innovation vs. the innovator;
3. Awarding solutions premised on affordability and inclusiveness;
4. Focus on simplicity of design and scalability in terms of impact;
5. Combining a recognition and an inducement dimension
6. Provision of institutional support and a mentoring ecosystem for the innovations to scale (including leveraging European and Indian industry organisations such as CII/ FICCI, EBG, etc.);

7. Prize money of at least over EUR $200,000 (TBD) per year (or Corpus) with co-funding from Europe and India, and from the public and private sectors. Engagement over a several year period of time would be desirable

Principles for Designing the Prize

Discussions on designing this prize have highlighted the following points:
1. Uniqueness: Given the plethora of awards/ prizes in this space it is critical to position this particular prize on the right premise, one that leverages its unique elements. This is the first collaborative prize being offered by India and the EU (and its interested Member States) on inclusive innovation, and the unique nature of this collaborative platform should be harnessed in the design of the prize and articulated effectively in the communication exercise.
2. Indo-European Collaboration on Affordable and Inclusive Innovation: The focus should be on affordable, inclusive and relevant innovation done via Indo-European cooperation. The prize could focus on collaboration between European and Indian individuals or public orprivate organisations. This means not having a prize for Europeans or Indians in isolation.It would be about togetherness in action.
3. Simple Design: The prize should be designed in a simple and transparent manner to ensure that the barriers to entry while focusing on quality and standards, do not pose undue restrictions. For instance, the architecture of the prize should enable Indian and European students studying anywhere in the world to collectively apply for the award.
4. Whom to Award: The prize should aim to reward and celebrate the innovation rather than the person or innovator, with an eye on large scale impact going forward. Hence, while the award would go to the innovating team, it would be for the specific innovation.
5. Recognition & Inducement: The prize could be designed with both an inducement dimension and a recognition dimension, to (i) stimulate ideas for innovation, (ii) to enable the incubation of existing innovative prototypes and business case, and (iii) to reward innovations mature enough to move from prototype to production / scale up and commercialisation.
6. Crowdsourcing and open Innovation: Another aspect to explore would be crowdsourcing and open innovationvia internet-enabled tools to reach out to innovators in India and in Europe working together. The prize could therefore try to attract and engage critical talent and problem-solvers not only confined to established expert resources whether in business or academia, but also include novel answers coming from the fringes of the innovation ecosystem.
7. Funding: The prize would be cofunded 50/50 by the European and Indian sides, to the with the hope that it would endeavour to leverage additional support from other organisations from the private and public sectors in Europe and in India as it grows in stature and gains recognition. Instead of yearly funding, setting up a corpus may also be explored, and this aspect needs to be discussed further.
8. Visibility and communication: Public relations and a smart communication strategy are important to reach a large and diverse audience. Communication actions in Europe and in India have to be shaped to garner a large range of media and public interest throughout the phases of the competition. The prize ceremony could for example take place at the time of the annual EU-India Summits.
9. Impact: Finally, steps have to be incorporated in the design of the prize to measure the impact and make appropriate adjustments based on the information collated.

Progress

The Department of Science and Technology in India has agreed to provide the institutional mechanism to support the prize under the overarching umbrella of India-EU S&T Cooperation Agreement, after the National Innovation Council has provided the framework for the same.

On the European side, the Delegation of the EU and the Embassies of the EU Member States interested in the prize will report to and discuss the prize design with their respective authorities in Europe and examine the possibilities for the way forward, e.g. within "Horizon 2020" at the European Commission level and other programmes / institutions at Member State level.

On the side of the private European and India sectors (industrial associations, individual enterprises, banks, VC, foundations, etc.) a similar information and consultation will be implemented to check their interest and modalities of involvement (mentoring and funding).

DST has also suggested that collective workshops may be organised as facilitation mechanisms to bring potential innovators from the two sides together.

Regarding timing, the aim is to finalise the contours of the prize design and implementation modalities by the beginning of 2014. The aim will be to launch the prize by mid-2014.

Innovation Partnerships

With the support of the Ministry of External Affairs, the National Innovation Council has also initiated several rounds of interactions with the Ambassadors of African and Latin American countries to chart out potential areas of collaboration on innovation – ranging from leveraging of India's expertise in the National Knowledge Network, to creating partnerships for setting up of knowledge and innovation institutes.

National Knowledge Network

The National Knowledge Network (NKN) is being developed by the Government of India as a high speed multi gigagbit network which aims to connect the country's educational and research institutions for real time research and collaboration. Currently 1106 institutions are connected on NKN. The NKN by networking all knowledge institutions and providing them with high speed connectivity aims to facilitate flow of information and create a platform for collaboration between researchers, academic faculty and students from diverse backgrounds and geographies.

NKN has been connected to the International Research Education Network through Trans Eurasia Information Network (TEIN) 3 and then through TEIN4. This has the participation of various research labs / universities in Europe and Asia Pacific region. This is achieved by connecting NKN by a 2.5 mbps link to Madrid and 2.5 gbps link to Singapore.

NKN has decided to set up a Points of Presence (PoP) at Singapore, Amsterdam, CERN, and New York. These pops will further be connected to various RENs of the world. The RFP for the same is available on the web and will be achieved by the end of March 2014. By establishing these pops, NKN will have direct interactivity with Internet2,Gloriad, Canarie, Geant,CERN, TEIN4 and various others.

GARUDA is a grid computing platform consisting of high performance computers which are now connected via NKN. 45 research and academic centres, including more than 36 partner institutions, centres of the Centre for Development of Advanced Computing (C-DAC) are participating in the GARUDA. Research has been initiated in Semantic Grid Services, Integrated Development Environments, Storage Resource Managers, Network Simulation and Grid File Systems.

C-DAC is also collaborating in the EU-India Grid project which will allow researchers and scientists across Europe and India to conduct simulation experiments on EGEE and GARUDA grids. Efforts are on to integrate the technology components of both the grids, which would enable the users to access the resources and services across the grids in a secure and seamless manner.

Progress

NKN has decided to set up a Points of Presence (PoP) at Singapore, Amsterdam, CERN, and New York. These POPs will further be connected to various RENs of the world. The RFP for the same is available on the web and will be achieved by the end of March 2014. By establishing these POPs, NKN will have direct interactivity with Internet2, Gloriad, Canarie, Geant, CERN, TEIN4 and various others.

Portals

The National Knowledge Commission (NKC) recognised that as the drive towards decentralization, right-to-information, people's participation and transparency sweeps the country, tools like public portals can play an important role in ensuring that more people exercise their rights. The NKC and thereafter the National Innovation Council have been promoting the development of portals in various areas. The highlights of these various portals are given below:

1)   India Innovation Portal

The India Innovation Portal, one of the key initiatives of the NInC, networks people, ideas, experiences and resources to galvanise the innovation community in India. The portal is an information aggregator and is intended to become a one-stop-resource on innovations in the country. The portal presents to the users resources on innovations happening across various sectors, resources categorised for different users and resources for various innovation needs. It gives the users the flexibility to navigate the portal either through sectors, users or needs and provides further filtering mechanisms in each of these sections.
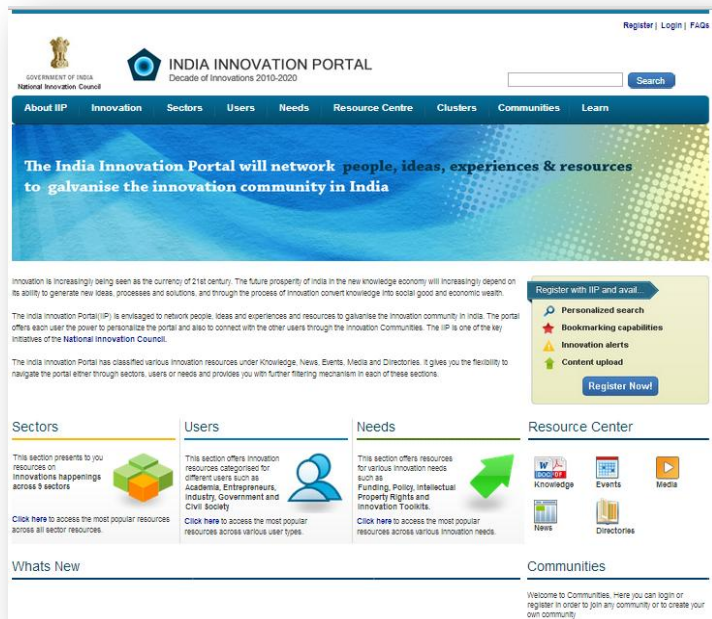
www.innovation.gov.in

2)   Tod Fod Jod Portal
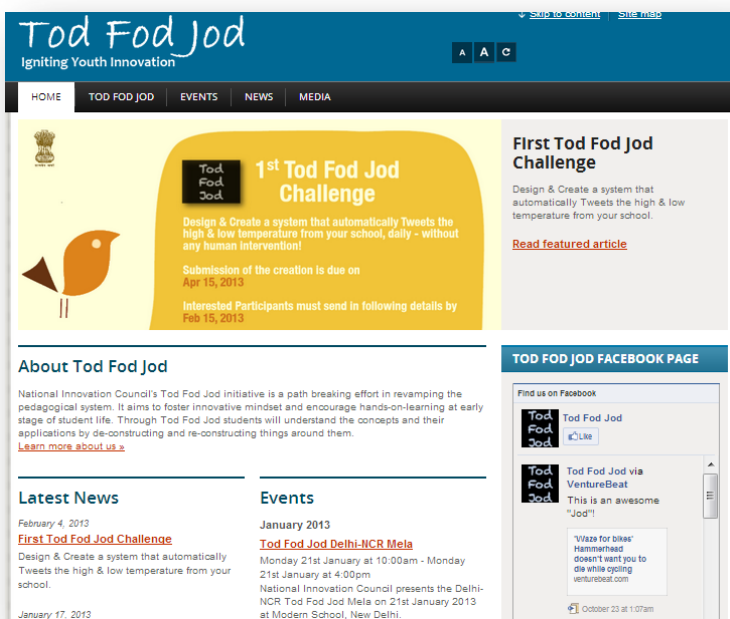
www.todfodjod.gov.in

A portal has been developed for Tod Fod Jod (TFJ) initiative of National Innovation Council to disseminate and aggregate information about the initiative and to engage the TFJ community. The portal acts as a platform for multiple stakeholders to interact, share information, seek answers and learn more about the TFJ initiatives.

3) Innovation Clusters Portal

The National Innovation Council launched the Innovation Clusters Portal to act as a repository of knowledge on innovation and models thereof using a cluster-based approach. NInC has successfully piloted two initiatives viz. Industry Innovation Clusters and University Innovation Clusters, to bring out models for seeding innovations in MSME clusters and University-based clusters. These pilots have shown encouraging results and the portal provides information on these initiatives. The portal also has guides and manuals for others to replicate/adapt these models for their benefit.

www.innovationclusters.gov.in

4) Open Government Platform (OGPL)

www.ogpl.gov.in

OGPL is a joint initiative from India and United States to promote transparency and greater citizen engagement by making more government data, documents, tools and processes publicly available. OGPL will be available, as an open source platform. Availability of data in useful machine-readable formats allows developers, analysts, media and academia to develop new applications and insights that will help citizens garner more information for better decisions. The portal is maintained by the National Data Portal Secretariat

5)   Gandhi Heritage Portal

The Gandhi Heritage Portal is conceptualised around The Collected Works of Mahatma Gandhi. It has placed the collected works in three languages: English (100 volumes), Hindi (97 volumes) and Gujarati (82 volumes). The Gandhi Heritage Portal also provides audio, visual, film material as also caricatures, paintings and postage stamps related to Gandhiji. The Gandhi Heritage Portal at present has 5 lakh pages of authentic and verified information on Mahatma Gandhiji.The Portal has been funded by the Ministry of Culture and has been designed, developed and maintainedby the Sabarmati Ashram Preservation and Memorial Trust, Ahmedabad.

www.gandhiheritageportal.org

6)   India Biodiversity Portal

The India Biodiversity Portal was proposed as a collaborative effort between five partner institutions, and Ashoka Trust for Research in Ecology and the Environment, was requested to lead this effort by the NKC. The portal is helps to promote decentralization, transparency, the right to information and participatory action with respect to biodiversity conservation and utilization.This portal provides information on various aspects of biodiversity in India. The portal has been designed to harness collective knowledge, seek voluntary participation of users and establish a participatory platform for content generation, verification and usage.

www.indiabiodiversity.org

7) Teachers of India Portal

Proposed by the NKC in 2008, the portal, an initiative of Azim-Premji Foundation, is a platform for teachers, teacher educators and others working in education in India.The Teachers of India Portal aims to create a vibrant community of teachers through the sharing of knowledge and experience on a common platform. The range of teaching and learning resources available to teachers on the portal enrich their knowledge of subject content and pedagogy, demonstrate new approaches to classroom practice and provide concrete support in the form of teaching/learning material.
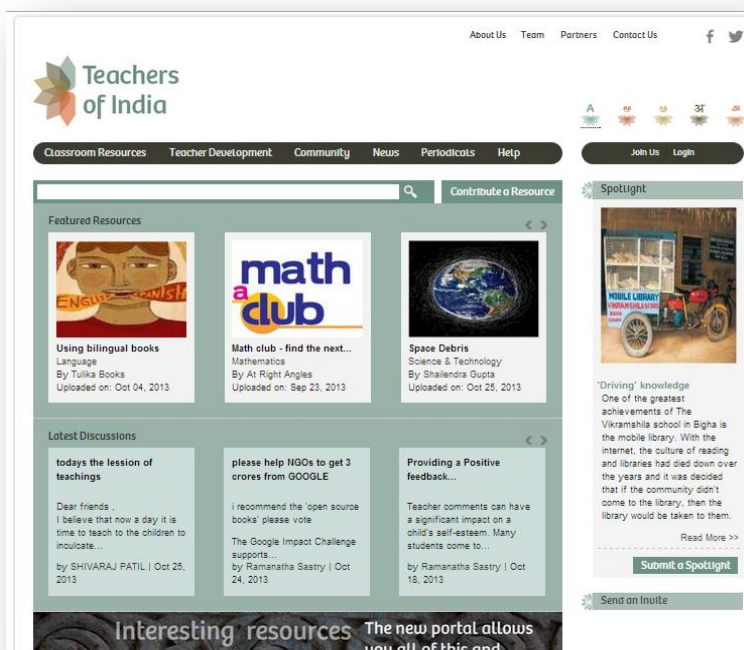
www.teachersofindia.org

8) India Environment Portal

The India Environment Portal is initiated and managed by the Centre for Science and Environment (CSE) promoted by the NKC.The key strength of the India Environment Portal is its use of a unique and built thesaurus of environmental and geographic terms. Each topic is classified and sub-classified. All information in the portal is manually tagged with a comprehensive thesaurus of environmental terms. The online thesaurus – topic tree -- makes the search for resources more accurate, relevant and contextual. The keywords, a relational database of environmental subjects, geographical location and names of the agents involved (government institutions, NGOs, industries, individuals) allows users to track each resource not just by the subject but where it is located and who is the agent involved.
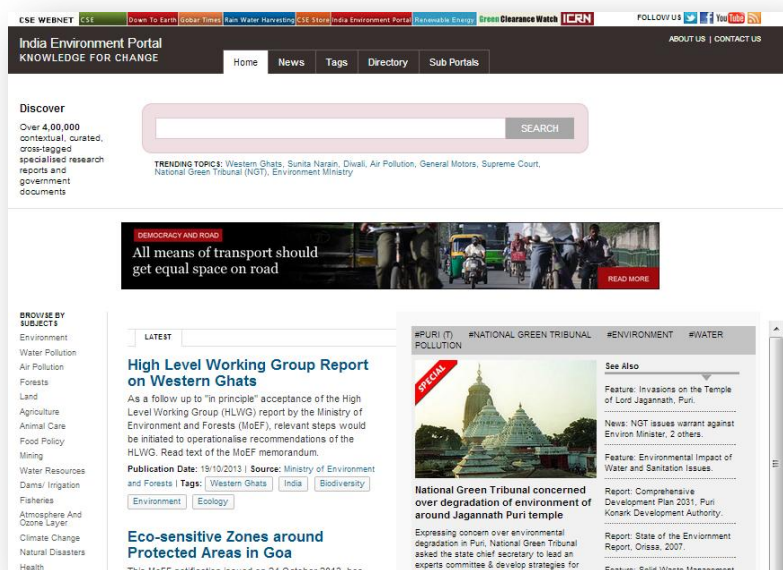
www.indiaenvironmentportal.gov.in

9)   India Energy Portal

India Energy Portal (IEP) provides access to information and knowledge on various aspects of energy in a comprehensive manner to a variety of stakeholders. IEP is developed and managed by The Energy and Resources Institute (TERI) on behalf of National Knowledge Commission for effective consolidation and assimilation of knowledge related to Energy.

www.indiaenergyportal.org

10)   India Water Portal

www.indiawaterportal.org

India Water Portal is a website that shares knowledge and builds communities around water and related issues in India. Managed by Arghyam, the Portal has become a valuable archive of resources, working papers, reports, data, articles, news, events, opportunities and discussions on water

National Innovation Council Team

NInC Team

Current Experts & Staff

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Expert

Rakesh Rewari
Expert

Suhaan Mukerji
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Veena Upadhyaya
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Rahul Nayar
Consultant

Deepti Ayyanki Dinkar
Research Assistant

List of Tables, Figures & Annexures

Annexures

Annexure 1.1
Auto Components Cluster, Faridabad

Profile
Location Faridabad, Haryana
Major products Auto components
People employed 1,00,000
Business Units 4,000
Turnover Rs 7,200 Cr
CIC HostIamSMEofIndia

Growth Challenges
Lack of access to cutting-edge technology
Lack of design expertise for product diversification
Lack of awareness of supportive programs

Partner Institutions
Central Mechanical Engineering Research Institute, Durgapur

Progress

Tod-Phod-Jod Center
Given the lack of design expertise and industry-academia interaction, a Tod-Phod-Jod center has been established at ManavRachna International University in collaboration with IamSMEofIndia. The center allows students to understand industry specific problems and work towards finding solutions for the same as part of their course work. About 14 such solutions have been developed so far and more are being worked upon.

Entrepreneur Facilitation Cell
There are multiple support programs of public and private bodies, which are beneficial to MSMEs, yet they are unaware of most of these and also unable to navigate their way through the process of accessing such support. Apart from established units, newly starting entrepreneurs also have specific requirements that need special support. Keeping the above in mind, an Entrepreneur Facilitation Cell has been established at IamSMEofInfdia. This cell provides advice and handholding needed by MSMEs, helping address some common pain-points. 5 startups and 16 established units have benefited so far by the cell.

Annexure 1.2
Ayurveda Cluster, Thrissur

Profile

Location Thrissur, Kerala
Major products Ayurvedic medicines, Cosmetics
People employed 20,000
Business Units 540
Turnover Rs 225 Cr
CIC Host CareKeralam Ltd.

Growth Challenges

Lack of standard protocols
Weak backward and forward linkages

Partner Institutions

National Institute of Interdisciplinary Science and Technology, Trivandrum
Kerala Agricultural University, Thrissur

Progress

Process standardization of NishakathakadiKashayam

Quality standardization, quality control and process standardization are key areas which will enable the growth of traditional knowledge industries esp. Ayurveda. To establish precedence for such quality and process standardization, CareKeralam undertook work on a widely manufactured diabetic formulation NishakathakadiKasahayam.

The work involved understanding the action pathway for the product, establishing the active molecules and thereby standardizing both quality and production process for the formulation. As a result, the formulation is now ready for certification, globally, and thus will be able to open a hitherto inaccessible market for Ayurvedic drugs. For Nishakathakadikasahayam, the estimated export market size is Rs. 100Cr.

Annexure 1.3
Bamboo Cluster, Agartala

Profile
Location State of Tripura
Major productsAgarbatti (incense sticks), furniture
People employed 2,20,000
Business Units 50,000
TurnoverRs 73.67 Cr
CIC Host Tripura Bamboo Mission

Growth Challenges
Lack of sustainable supply of premix – Jigat
Lack of mechanization
Inability to access markets

Partner Institutions
Central Mechanical Engineering Research Institute, Durgapur
Central Institute of Medicinal & Aromatic Plants, Lucknow
National Institute of Technology, Agartala

Progress

Semi-mechanization of Agarbatti stick making
Tripura Bamboo Mission created a semi-mechanized process for enhancing the productivity of the traditional stick making process, using local innovations, and 2,500 artisans in various districts of Tripura have been trained to be master-artisans on this process. The process increases productivity of artisans by 70% while enhancing their daily income by 45-50%. Further, National Institute of Technology has agreed to design low-cost, hand-operated machines for stick making and the students have showcased few innovative concepts. These are being prototyped for field trials.

Mechanization of Agarbatti stick rolling
Agarbatti stick rolling has been a completely manual process and some efforts have been made to import machinery for mechanized rolling. However, apart from the prohibitive cost of these machines for the artisans, the machines were found unsuitable for the Indian species of bamboo and masala (premix) used. In collaboration with Central Mechanical Engineering Institute, machines for polishing and rolling are being developed.

Bio-replacement for Jigat in Agarbatti premix
Jigat – bark of the Mendi tree is an important binding ingredient used in Agarbatti premix. However, shortages are creeping into its supply and there's a need for a bio-replacement. With support of Central Institute of Medicinal & Aromatic Plants, a suitable replacement is being developed; which will go into field trials shortly.

Annexure 1.4
Brassware Cluster, Moradabad

Profile
Location Moradabad, Uttar Pradesh
Major products Brass Artifacts
People employed 3,50,000
Business Units 29,000
TurnoverRs 2,500 Cr
CIC Host Moradabad Cluster Inclusive Development Society

Growth Challenges
Lack of access to new technologies, techniques
Poor working conditions
Rising production costs
Lack of infrastructure – power & gas supply

Partner Institutions
National Metallurgical Lab, Jamshedpur
Central Electrochemical Research Institute, Karaikudi
Metal Handicrafts Service Center, Moradabad
Federation of Indian Chambers of Commerce and Industry, New Delhi

Progress

Improved furnace for artisans

National Metallurgical Laboratory (NML) has developed a new design of furnace that reduces consumption of coal and pollution, while enhancing productivity. Field trials have shown the furnace leads to almost 100% increase in daily income of artisan from Rs. 200 to Rs 390. NML signed a technology transfer agreement with Moradabad Industrial Development Corp. on 25th June 2013.

Cyanide-free electrolyte

Central Electrochemical Research Institute has been working on a cyanide-free electrolyte for electroplating requirements of the cluster. After the field trials and demo of a prelim version, a second and final version of the solution will be tested in the cluster before December 2013.

Improved lacquer

NML has developed an improved lacquer that promises to reduce product costs while enhancing product quality and time to coat/dry. Post successful field trials, a suitable partner is being sought to commercially produce the lacquer.

Annexure 1.5
Food Processing Cluster, Krishnagiri

Profile

Location Krishnagiri, Tamilnadu
Major products Mango pulp, Fresh fruit
People employed 2,50,000 (direct & indirect)
Business Units 73
Turnover Rs 700 Cr
CIC Host Krishmaa Cluster Development Society

Growth Challenges

Improving quality and storage life of mangoes
Modern farming and processing techniques
Expansion of market reach
Limited level of automation

Partner Institutions

Central Food Technology Research Institute, Mysore
National Institute of Interdisciplinary Science and Technology, Trivandrum
Agricultural and Processed Food Products Export Development Authority, New Delhi

Progress

Waste management

Close to 1,05,000 tonnes of solid waste, 1,50,000 cubic meters of liquid waste is generated in the cluster every season and their disposal is a major concern for all processing units in the cluster. Model captive fuel briquetting units and biogas units have been installed in the cluster; with process efficiency advise from experts. While the briquetting unit is estimated to save Rs 44,000/- per day on firewood expense, the biogas unit is estimated to have the potential to supply power for 12-16hrs a day depending on the capacity of the plant.

Farming and Storage protocols

Due to poor farming, harvesting practices and owing to low storage life of mangoes, an estimated 30-40% of the produce is wasted every season. With technology from Central Food Technology Research Institute (CFTRI), mango producers were trained on pre and post harvest protocols. With an estimated increase in storage life from 5days to 30days, a trial shipment of 10tonnes was made to the U.K. by sea, which was a first as all previous shipments were by air. The result was doubling of the price received by producers from Rs 12-13 per kg to Rs 25 per kg.

Product diversification

With technology help from CFTRI, local women self-help groups (SHGs) were trained in production of hygienic mango bars, mango flavored corn flakes, pickles and others.

Annexure 1.6
Furniture Cluster, Ernakulam

Profile

Location Ernakulam, Kerala
Major products Furniture
People employed 25,000
Business Units 5,000
Turnover Rs 800 Cr
CIC Host Kerala Furniture Consortium

Growth Challenges

Restricted supply of raw materials
Limited access to new designs
Deficiency of skilled labor
Access to market

Partner Institutions

Rubber Research Institute of India,
Thiruvananthapuram
National Institute of Interdisciplinary
Science and Technology,
Thiruvananthapuram
MSME Development Institute, Thiruvananthapuram

Progress

Improved wood seasoning process

Availability of seasoned rubber-wood for the furniture industry is a bottleneck, especially when there's a sudden flow of orders. However, the seasoning process is slow and doesn't provide requisite quality of wood. In collaboration with the Rubber Research Institute of India, an improved seasoning technology was implemented at the Common Facility Center, operated by Kerala Furniture Consortium. As a result, the seasoning time reduces from 14 to 12days, with marked improvement in quality of wood.

Increasing access to new designs

Furniture SMEs are facing stiff competition from imported furniture that is more attractive and contemporary. While few Govt. programs supported one-time creation of new designs, there was a felt-need for a longer lasting solution. A Design Hub has been established at the Kerala Furniture Consortium to create and prototype new designs periodically. With professional designers hired on contract, the designs developed are made available to all members of the cluster, on preferential terms by Kerala Furniture Consortium.

NATIONAL INNOVATION COUNCIL

Annexure 1.7
Life Sciences Cluster, Ahmedabad

Profile
Location Ahmedabad, Gujarat
Major products Drugs, Pharmaceuticals
People employed 20,000
Business Units 2,000
TurnoverRs 10,000 Cr
CIC Host Gujarat State Biotechnology Mission

Growth Challenges
Lack of access to R&D and technology
Lack of skilled manpower
Limited product knowledge
Access to business development services

Partner Institutions
Indian Drug Manufacturers Association, Ahmedabad
B V Patel PERD Centre, Ahmedabad
Central Leather Research Institute, Chennai
Entrepreneurship Development Institute, Ahmedabad

Progress

Biotechnopreneur Program
To encourage entrepreneurship in the biotechnology domain, the program selected interested candidates and put them through a course tailored to take them through the rudiments of starting a business. 25 students undertook the course and are moving forward towards becoming entrepreneurs. The Central Leather Research Institute, B V Patel PERD Centre, others have partnered to open up their technologies for commercialization and the students of the program are benefiting from these.

Innovative Research Reward
To promote a culture of industry-focused research in academic institutions, GSBTM has announced the Innovative Research Reward program to seek high-quality, commercially viable R&D. The winners, will not only receive a cash prize, but the CIC at GSBTM will help them in commercializing their research by bringing forth collaborations with industry, financial institutions, R&D institutions and others as needed. The winners are yet to be announced and it is expected that 40% of the winners will head towards becoming entrepreneurs leveraging this program.

Annexure 1.8
Delhi University

Profile
Location New Delhi Region
Focus area Mathematics & IT
Focus Industry IT, Automotive
No. of students 2,30,000

Growth Challenges
Fostering innovation mindset in students
Application and exploitation of university knowledge
Industry collaborations

Partner Institutions
Defense Research & Development Organization
PHD Chambers of Commerce
Federation of Indian Chambers of Commerce & Industry
IamSMEofIndia
JamiaMilia University
University of Maryland, USA

Progress

B.Tech. Innovation with Mathematics & IT
DU has launched this program with the objective of initiating a mindset of application of knowledge to real-world problems; problems of industry and society. The students undertake activities like mobile science workshops, interactive mapping of historical monuments, societal applications workshops, others. The program is in its 2nd year.

Engineering Kitchen
The kitchen provides the students with access to a variety of engineering resources and gives them the freedom to imagine an application of existing technology. The kitchen has focused sections on artificial intelligence & robotics, electronics among others.

Meta College
In collaboration with JamiaMilia University, the CIC at DU has initiated a joint program in Humanities, where the students of Mathematics and Sciences will be able to take courses in the Humanities disciplines at Jamia.

Annexure 1.9
Maharaja Sayajirao University, Baroda

Profile
Location Baroda, Gujarat
Focus area Microbiology, Biotechnology
Focus Industry Life sciences
No. of students 38,000

Growth Challenges
Application and exploitation of knowledge
Awareness of IPR, global standards and regulations
Guidance and mentoring for entrepreneurs

Partner Institutions
Gujarat Chambers of Commerce and Industry
Alluri Sitaramaraju Academy of Medial Sciences, Eluru

Progress

Support for out-bound entrepreneurs

Leveraging the local talent pool and entrepreneurial spirit, the CIC has started supporting entrepreneurs in multiple ways. Right from helping them create robust business plans, to supporting in access to funds under Govt. programs and opening up the R&D capabilities of the Univ. to help finalize the entrepreneur in developing his product; the center has helped entrepreneurs leap ahead.

Support for in-bound entrepreneurs

Translation of research into a commercially viable solution, incubating the company, market access and others are pain-points for any research scholar aspiring to be an entrepreneur. The CIC at MSU, by bringing in necessary collaborations with institutions across the country, has been able to provide a potent platform for enterprising students. Leveraging this access, research scholars have started considering entrepreneurship as a career.

Annexure 2
Institutes Connected Through National Knowledge Network

S.No	Category	Number of institutes	Number of institutes commissioned	Number of institutes com-missioned under NMEICT
	Institutes By Categories			
1	Army	6	3	0
2	Ayush	15	11	0
3	C-DAC	13	11	0
4	C-DOT	2	2	0
5	Co-operative	8	2	0
6	Central University	10	9	26
7	CSIR	46	45	0
8	DAE	43	41	0
9	DBT	15	14	0
10	Deemed University	14	12	54
11	DRDO	50	39	0
12	DST	26	23	0
13	Engineering	127	98	8
14	Ernet	11	11	0
15	ICAR	64	56	0
16	ICFRE	12	12	0
17	ICMR	23	23	0
18	IIM	12	10	1
19	IIT	14	14	1
20	Navy	1	0	0
21	NADT	8	5	0
22	NID	3	2	0
23	NIELIT	13	5	0
24	NIXI	1	1	0
25	ISI	3	3	0
26	ISRO	21	19	0
27	IISER	5	5	1
28	Management	20	12	0
29	Mass Communication	2	1	0
30	Medical	180	151	0
31	MoES	14	14	0
32	NIFT	15	15	0
33	NIT	17	15	12
34	NPTI	3	3	0
35	NTRO	7	5	0
36	Power Ministry	7	7	0
37	RBI	2	2	0
38	Research	43	24	2
39	SAU	19	17	16
40	SDC	24	22	0
41	State University	42	37	155
42	SWAN	26	26	0
43	UGC	4	4	0
44	Private University	0	0	19
	Total	**991**	**831**	**295**
	* 4 entries are part of NIC circuits, therefore not included under the category list.			

	Institutes By Geography			
S.No	State / UT	Number of institutes	Number of institutes commissioned	Number of institutes to be commissioned
1	Andhra Pradesh	71	56	15
2	Arunachal Pradesh	3	2	1
3	Assam	31	31	0
4	Bihar	25	17	8
5	Chhattisgarh	18	17	1
6	Chandigarh (U.T.)	15	14	1
7	Delhi	85	73	12
8	Goa	9	9	0
9	Gujarat	47	33	14
10	Haryana	19	13	6
11	Himachal Pradesh	17	13	4
12	Jammu & Kashmir	12	10	2
13	Jharkhand	14	13	1
14	Karnataka	85	68	17
15	Kerala	61	51	10
16	Madhya Pradesh	42	33	9
17	Maharashtra	111	95	16
18	Manipur	7	5	2
19	Meghalaya	10	10	0
20	Mizoram	3	2	1
21	Nagaland	4	2	2
22	Odisha	24	20	4
23	Puducherry (U.T.)	6	6	0
24	Punjab	17	17	0
25	Rajasthan	31	29	2
26	Sikkim	5	4	1
27	Tamil Nadu	63	49	14
28	Tripura	4	3	1
29	Uttar Pradesh	70	66	4
30	Uttarakhand	17	15	2
31	West Bengal	65	55	10
	Total	**991**	**831**	**160**

	Overall Connectivity Status - Institutes		
S.No	Particulars	Total	Total Commissioned Institutes
1	No. of Institutes Commissioned	831	1124
2	No. of Institutes Commissioned in NMEICT	293	
3	No. of Institutes Provisioned	58	-
4	No. of Institutes to be provisioned	102	-
	Total	**991**	**-**

Institutes by Service Provider					
S.No	Name of Service Provider	Total institutes	Double links	Commis-sioned	Provi-sioned
1	BSNL	140	2	115	117
2	MTNL	63	3	52	52
3	Powergrid	345	8	301	317
4	Railtel	375	11	301	341
5	NKN	68	0	62	62
	Total	991	24	831	889
*TSP allocation of 2 institutes is in progress					

Nodal Officer Details		
S.No	Particulars	Total
1	Nodal officer details received	863
2	Nodal officer details pending	97
	Total	960

Annexure 3
Tod Fod Jod - Process

Most school education in India focus on remembering and understanding concepts and facts. Children do not get the opportunity to apply this knowledge and explore it in a hands-on, real world context. Such application and creation in the form of "tinkering" and "experimentation" is vital to nurturing creative and innovative children. Tod fod jod is a National Innovation Council (NInC) endeavours to provide resources, methodologies, inspiration, mentors to kids, educators and parents so they can apply and create in schools, communities and homes.

With Tod fod jod, kids will get to de-construct (TodFod) everyday products that children see and/or use. As they figure out how these products are designed and how they work, children connect multi-disciplinary concepts they learn in textbooks to real life applications. They draw inspiration from ideas and inspirations of others. They may re-construct (Jod) these products, repair (Jod) them (which involves great deal of hands-on problem solving) or re-purpose (Jod) them to do create something completely different.
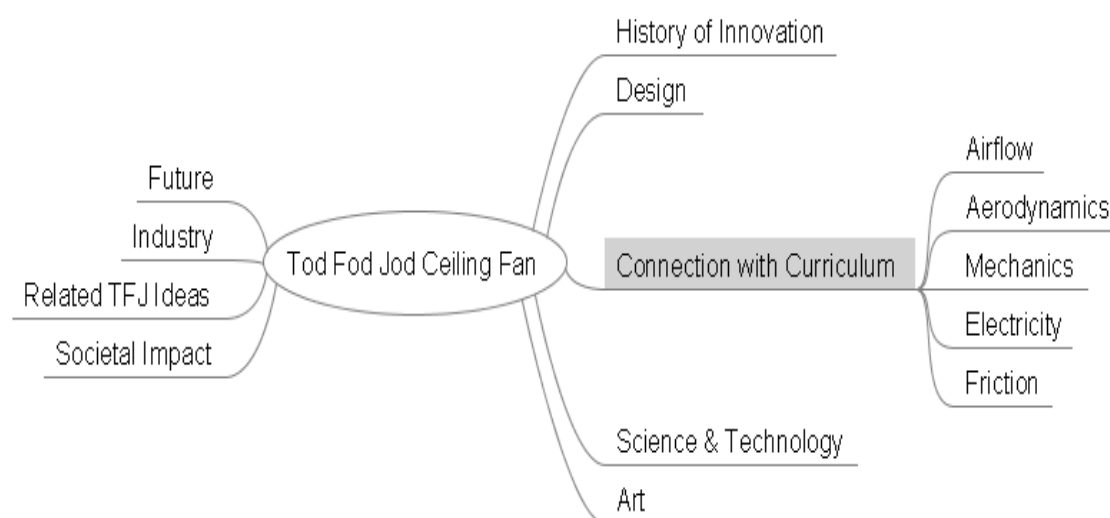
TFJ Components

Workshops

Tod fod jod workshop can be conducted as per the convenience of the schools. Schools can establish separate TFJ club or can merge it with existing science club activities in their respective schools. Zero periods, SUPW classes, stay-backs, clubbed periods, one-hour a week workshop are other possible options.

TFJ workshop session has to be conducted on regular basis in order to provide a hands-on learning environment where students can de-construct, re-construct or re-purpose everyday objects that they see or use. Initially, the teachers need to be seeded with Mentor training workshops which will help in educating and training them to be able to conduct TFJ sessions with students.

a) Mentor Training Workshop

TFJ mentoring team will conduct mentor training workshop for two days.

Day1: 4 hour session (with Mentors)		Time (Mins)
1.	TFJ Presentation	25
	TFJ session Videos	
2.	Tea break	10
3.	Description of TFJ mentor	15
4.	Expectation from Mentors	15
5.	Interactive Session	30
6.	TFJ hands on training: TFJ experience with a product	120
7.	Feedback	20

Day2: 3 hour session (With Mentors and Students)		Time (Mins)
1.	TFJ Introduction	15
2.	Product Introduction	30
3.	Mentors to conduct the TFJ session with students	120
4.	Feedback	10

b) TFJ Sessions for Students

Identified and trained mentors will conduct TFJ workshop with the students at the TFJ Centre in Schools. The session details are as follows:

Session 1 (TOD): The motive is to help students to open / disassemble the product and understand the details – parts, material, shape, function, importance of each part, use of right tooling and methods, importance of accessories etc.

3 hour session		Time (Mins)
1.	TFJ Introduction	15
2.	Product Introduction	15
3.	TFJ Session	115
4.	Interaction with students	30

Session 2 (FOD): The motive is to help students to De-construct – further dis assembly of parts if possible, understanding linkages, scientific principles and engineering applications, working principles, alternate tools and accessories etc.

3 hour session		Time (Mins)
1.	Discussions on importance of parts	30
2.	Further dis-assembly of parts and learning	60
3.	Discussions on scientific / working principles / engineering applications	30
4.	Importance of Tools, methods, accessories	30
5.	Interaction with students – listing out key suggestions	30

Session 3 (JOD): The motive is to help students to reconstruct, repair, re-purpose, re-create – Ability to put it back in normal working condition, creating something new and different, ability to suggest new shape, alternate material, minimizing parts, reverse engineering, linking with other applications, energy transfer and conservation of energy, cost reduction, new applications, green – environment friendly products etc.

3 hour session		Time (Mins)
1.	Assembling the Gadget –putting it back to working condition	45
2.	JOD - Developing something new	45
3.	Ideas on – new application, reverse Engg, economy, green concept	15
4.	Reapplying new ideas on the Gadget – TFJ – new creation	45
5.	TFJ Workshop Feedback	30

c) **Workshop Requirements**

   i.   Seating arrangement: cluster style seating (3 - 4 participants at each table)
   ii. Product: Product/ Article for TFJ + necessary Tools for assemble / dis-assemble the product/ article (one set each for a group of 3- 4 participants)
   iii. Projector, screen and speakers to be connected with Laptop - required for Audio / Visual presentations

d) Products:

List of possible products/ articles which can be used for TFJ sessions:

Water filtration system	Remote control	Desktop computer	Elevator and its control system
Sports Shoe	Radio	Disk drive	Bicycle
Microwave oven	Air conditioner	Printer	Talking Toys
Toaster	Air Cooler	Computer mouse	Flying Toys
Blender	Toilet	Projector	Intelligent Toys
Stove	Sewing Machine	MP3 player	Motorcycle
Water Cooler	Camera	Website	Piano
Heater	Bulb	Energy	Tube well
Refrigerator	Tube Light	Diesel Generator	Automatic door
Vacuum cleaner	Video Game console	Solar panel	Bicycle
Washing machine	Landline phone	Batteries	Fashion Apparel
Dryer	Landline phone	Wind turbine	
Iron	Cordless	Vending machine	
Fan	Cell phone		
Television	Skype		

e) Lesson Plan

Lesson Plan of a Product/ Article is required to help the participant understand the product better and be able to investigate the product according to the curiosity. Lesson plan will be created by the TFJ experts and subject experts. The Lesson Plan on few products/ articles has already been uploaded on the TFJ Mentor Facebook page:

https://www.facebook.com/pages/Tod-Fod-Jod-Mentors/425357237506185?fref=ts

f) TFJ Operational Requirement

Creation of a **TFJ Cell** in Education Department/ Institution/ School:

    i.   To create Roadmap for implementation of TFJ in the state/ institute/ school

    ii.   To promote the initiative in the state/ institute/ school

    iii.   For Mentors Training:

- Identification of Mentors from Schools, DIET, SSA program, NGOs
- Organisation of Mentor Training workshop on Regular basis.
- Create a network of mentors.

    iv.   To engage Schools:

    v.   Ensuring TFJ activities in schools.

    vi.   Organising TFJ Mela to reward TFJ activities in Schools and recognise creative students.

    vii.   To arrange Articles:

- Identification of Donors/ Supplier

- Acquisition of relevant materials/objects/tools

viii.   For Content Preparation:

- Recording of the TFJ sessions (video, photo, written, etc.)

- Feedback collection/ conducting survey

- Creation of new content and uploading on online platform for others to use

For further information TFJ Implementation guide can be downloaded from www.todfodjod.gov.in

Annexure 4
List of State & Sectoral Innovation Council

State Innovation Council

S.No.	State / Union Territory	Date of Formation	Mentor
1	Andaman and Nicobar Islands	08-11-2010	Dr. K. Kasturirangan
2	Andhra Pradesh	Yet to be formed	Mr. R. Gopalakrishnan
3	Arunachal Pradesh	10-01-2011	Yet to be assigned
4	Assam	15-02-2011	Dr. Devi Prasad Shetty
5	Bihar	30-03-2011	Mr. Chandrajit Banerjee
6	Chandigarh	Yet to be formed	Mr. SaurabhSrivastava
7	Chhattisgarh	20-06-2012	Prof. Anil Gupta
8	Dadra and Nagar Haveli	09-09-2013	Yet to be assigned
9	Daman and Diu	09-09-2013	Yet to be assigned
10	Goa	04-08-2011	Mr. R. Gopalakrishnan Dr.SujathaRamdorai
11	Gujarat	09-07-2013	Dr. Ramesh Mashelkar
12	Haryana	17-08-2011	Mr. SaurabhSrivastava
13	Himachal Pradesh	07-02-2011	Dr. A. Didar Singh
14	Jammu and Kashmir	25-09-2012	Prof. Anil Gupta Dr. Samir K. Brahmachari
15	Jharkhand	05-11-2011	Dr. K. Kasturirangan
16	Karnataka	28-03-2011	Mr. R. Gopalakrishnan
17	Kerala	07-03-2011	Mr. ArunMaira Dr.SujathaRamdorai
18	Lakshadweep	11-03-2011	Yet to be assigned
19	Madhya Pradesh	08-03-2011	Mr. KiranKarnik
20	Maharashtra	Yet to be formed	Dr. Ramesh Mashelkar
21	Manipur	16-12-2010	Yet to be assigned
22	Meghalaya	02-09-2011	Yet to be assigned
23	Mizoram	23-03-2011	Yet to be assigned
24	Nagaland	16-11-2011	Prof. Anil Gupta
25	Delhi	17-09-2013	Mr. ArunMaira
26	Odisha	Will be constituted by November End	Mr. Chandrajit Banerjee
27	Puducherry (Pondicherry)	08-06-2011	Yet to be assigned
28	Punjab	14-09-2011	Mr. SaurabhSrivastava
29	Rajasthan	13-05-2011	Mr. KiranKarnik
30	Sikkim	Yet to be formed	Mr. KiranKarnik
31	Tamil Nadu	Yet to be formed	Mr. R. Gopalakrishnan
32	Tripura	11-11-2011	Dr. Samir K. Brahmachari
33	Uttar Pradesh	30-03-2011	Dr.Indranil Manna
34	Uttarakhand	Yet to be formed	Mr. SaurabhSrivastava
35	West Bengal	Yet to be formed	Dr. Samir K. Brahmachari

Total no. of State Innovation Council formed: 27

Sectoral Innovation Council

S.No		Ministry	Date
1		Ministry of Communications and IT, Department of Telecommunica-tions *	04.04.2011
2		Ministry of Steel	06.04.2011
3		Ministry of Commerce and Industry	
	a	Department of Commerce	06.05.2011
	b	Department of Industrial Policy and Promotion	12.05.2011
4		Ministry of Health and Family Welfare*	13.05.2011
5		Ministry of Heavy Industries	12.05.2011
6		Ministry of Shipping	16.05.2011
7		Ministry of MSME	25.05.2011
8		Ministry of Law and Justice	08.06.2011
9		Ministry of Civil Aviation	09.06.2011
10		Ministry of Youth Affairs and Sports	15.06.2011
12		Ministry of Chemicals and Fertilizers, Department of Fertilizers*	27.06.2011
13		Ministry of Petroleum and Natural Gas*	28.06.2011
14		Ministry of Information and Broadcasting*	28.07.2011
15		Ministry of Railways	23.08.2011
16		Ministry of Labour and Employment	
	a	Simplification and Amalgamation of Labour Laws	25.08.2011
	b	RashtriyaSwasthyaBimaYojana	25.08.2011
	c	Occupational Safety and Health	25.08.2011
17		Ministry of Power*	01.11.2011
18		Ministry of Chemicals and Fertilizers, Department of Chemicals and Petrochemicals	14.12.2011
19		Ministry of Science and Technology*	04.01.2012
20		Ministry of Communications and IT, Department of Information Technol-ogy	27.07.2011
21		Ministry of Tribal Affairs	25.01.2012
22		Ministry of Drinking Water and Sanitation	04.07.2012
23		Department of Information Technology, Innovation Council on Nanoelec-tronics	29.07.2011
24		Ministry of HRD	18.02.2013
25		Ministry of Textiles	24.06.2013
26		GrameenVikas	20.12.2012

*Reports submitted to NInC

Annexure 5
State Specific Initiatives

Karnataka

- Amulya 2012 : An encouragement program jointly initiated by the Department of Industries and Commerce, Government of Karnataka and KSInC supported by Karnataka JnanaAayoga (Karnataka Knowledge Commission) to give away awards and incentives for patent applications granted/filed by Individuals, Researchers, Institutions, Research & Development(R&D) Centers and Micro, Small and Medium Enterprises (MSME) to protect their innovations.

- The Youth Enterprise Program had been started in collaboration with the Intel; more than 100 students were covered at a time. A group of 05 students was constituted for mobilisation of ideas, ideation, creation of Business Model, and pitching for funds from the angel investors.

- The Ignite Program has been started in which the policy-makers meet the innovation experts for a brain-storming.

- The SInC has been instrumental in creation of 09 Clusters in the field of Bio-medicals to bring the doctors and engineers together on a platform for effecting improvements in the manufacture of the medical equipments.

- The SInC has promoted formation of Innovation Warehouse, a repository of the Project Reports, ideas for entrepreneurship, liaison with angel investors and industry. NIC supports in maintenance of the Warehouse.

- Among other ideas promoted by the SInC are the identification of the Innovation Champions; application of the parameter of STEEPLE (Social, Technical, Environmental, Economic, Public-good, Legal and Ethical) Test to a given innovation-based enterprise; concept of excubationvis-a-vis incubation. The word 'Excubation' carrying the connotation of trying out an idea on a small scale and ramping it up as has been done by the Augustya International Foundation. An essential pre-requisite of excubation is the willingness to overcome the fear of failure.

- Karnataka has teamed up synergistically with Google in respect of its website innovationkarnataka.in, and with Techpedia and Intel in respect of some of its important initiatives. The SInC organises workshops on areas of contemporary social, economic and environmental concerns. It recently had two such workshops namely, Sustainable Innovations and Innovations in Energy and Water sectors.

Punjab

- Analysis of Inventor-wise patents from Punjab & Chandigarh.
- Identification of Five Key areas namely agriculture (including water), energy, health, education (including technical education) and manufacturing industry (including pollution control) for innovation-centred initiatives.
- Constitution of five sectoral committees in the above sectors for preparation of Roadmaps.

- Identification of four-five strategic issues to be undertaken by State level Sectoral Committees.
- Financial support to SInC from the budget of Punjab State Council for Science and Technology (PSCST).
- Formulation of guidelines under DIF.
- Preliminary identification of three Industry Clusters namely Auto parts, Ludhiana; Sports goods, Jalandhar ; and Hi-tech Cluster, Mohali for improvement in the quality and productivity through collaborative ties with knowledge-partners.

Haryana
- Approval of the guidelines for utilisation of 'Grants-in-Aid' from the District Innovation Fund in the four focus areas of Energy, Environment, Health and Water.

- Constitution of District Innovation Committees under the chairmanship of Deputy Commissioners for conceptualisation, monitoring and implementation of innovative projects in the district.

Rajasthan
- Recruitment of 42 bright young students from professional colleges located all over the country to take advantage of their unbiased fresh perspective on the implementation of some of the flagship programs in the districts under the Young Interns Program (YIP).The interns are deputed to different districts of the State, and assigned a range of programs. They report directly to the Deputy Commissioner.
- Funding innovation-driven projects from institutions, PRIs and individuals in the earmarked 21 areas under the Financial Assistance to Innovative Projects Program (FAIP).
- Invitation of innovative ideas for resolution of specific problems, and rewarding the best among the feasible ones under the program captioned Manthani.e Ruminations.

Bihar
- Collaboration between SInC and Bihar Innovation Forum (BIF) for identification and scale-up of rural livelihood innovations, an initiative supported by the World Bank and implemented by the Bihar Rural Livelihood Promotion Society (JEEViKA)
- The BIF shares innovations by private entrepreneurs, NGOs and communities, and scales them up to improve rural livelihoods. It recognizes and awards the services of the innovators by Honorable CM. 491 applications received by JEEViKA.
- Facilitating Interface between donor agencies and innovators. Interface between SInC and District Innovation Forum; 200 applications received from grassroot innovators.
- Organization of Seminar on 'Use of Nano-Science and Nano-Technology in the Management of Health, Energy and Environment.

MP SInC
- Registration of State-wise innovations; CM's Excellence Award for innovative ideas; setting up of 300 LokSeva Kendra for public service delivery; grant of Rs 5 Lakhs as

awards for selected innovations under Program of Action in Conservation of Environment (PACE); and documentation of case studies.

Andaman & Nicobar Islands UTInC

Farm Innovation Awards; and organization of zonal and State level Innovation Workshops.

J&K SInC

Provision of Rs. 10 Crores by Planning & Development Dept. in 2013-14; promotion of innovation in Universities; constitution of a sub-committee under CS for evaluation of innovations; creation of Endowment Fund to encourage innovations; and constitution of an Innovation Cell in the Council for Science & Technology.

Chhattisgarh SInC

Implementation of COREPDS, ICT-driven Gramsuraj and Nagarsuraj grievance redressal systems; e-Kosh; computerized land records and maps; transport projects entitled Vahan and Sarathi; e-Works; e-Panchayats and online paddy procurement; linkage of 18 institutes and Universities under National Knowledge Network (NKN), and 5 more underway; linkage between NKN and NIC district headquarters.

Gujarat

Notification of the Educational Statutory Innovation Commission to provide for ongoing updating of the curriculum and syllabus; high priority to innovative experiments to improve the service delivery through movements like like 'ApnoTaluko, Vibrant Taluko' (ATVT), thereby encouraging filtration of innovation to the grassroots level; and provision for assessment for conception and implementation of innovative ideas in the proforma for Annual Performance Appraisal for all civil servants.

Uttar Pradesh

Identification of areas namely agriculture; food processing; post-harvest management and food safety; MSME clusters of wood, wool, textiles, and ceramics; health, hygiene, infrastructure and biomass energy; and e-governance for the projects being executed in the State; nurturing innovations through the network of more than 700 technical institutions (maximum in any State in India) in the State.

Goa SInC

Establishment of the Centre for Innovation and Business Acceleration (CIBA) in April, 2012; running of the Technology Incubation Centre with space for 10 incubatees.. The identified thrust areas are Food Processing, Solid Waste Management and IT-enabled Services (ITES); development of collaborations by CIBA with Goa Small Industries Association (GISA), Asia-Pacific Innovation Network (APIN) and IIM-A's Centre for Innovation, Entrepreneurship and Competitiveness (CIEC).

Maharashtra

Establishment of close linkages between ITIs and the industry; setting up of training centres by industries like Chroma, Tata Realty, Travel Agencies, Voltas and Taj

Beauty Parlours at these institutions to teach the trainees and equip them better for jobs.; creation of a compendious database of 85000 students in 416 ITIs of the State to bridge the gap between the demand and supply of technically qualified personnel; promoting multi-skilling; and having an intensive network of 12000 exchanges now as compared to 45 Employment Exchanges in 1945.

Andhra Pradesh

Providing platforms where innovations by the universities get linked to the industries; creating technology incubators, venture funding opportunities for young entrepreneurs from universities; establishment of 'Research and Innovation Council of Hyderabad' (RICH) by the Department of Industries & Commerce in association with CII with the mandate to work on innovations in the field of life-sciences, information technology, aviation and food processing.

Manipur SInC

Encouragement to be provided to farmers with innovative ideas by Central Agriculture University; encouragement of innovation and creativity among students and teachers by Dept. of Education and S&T; documentation of Department wise Innovations and success stories; co-option of Member State Biodiversity Board as Member SInC.

Meghalaya SInC

In the meeting of SINC held on 22.4.13, projects for funding under DIF in the East Khasi Hills District approved.

Annexure 6
One MP – One Idea

Member of Parliament Local Area Development Scheme

भारत सरकार
सांख्यिकी और कार्यक्रम कार्यान्वयन मंत्रालय
सरदार पटेल भवन, नई दिल्ली-110001
GOVERNMENT OF INDIA
MINISTRY OF STATISTICS & PROGRAMME IMPLEMENTATION
SARDAR PATEL BHAWAN, NEW DELHI-110001
FAX : 011-23364197
E-mail : mplads@nic.in

-File No. C/17/2009-MPLADS   Dated............**17.09.2012**

To

The Commissioners,
Corporation of Kolkata/Chennai/Delhi
Districts Collectors/District Magistrates /Deputy Commissioners.

Sub: -   **Modification of MPLAD Guidelines-one-MP -one Idea.**

Sir/Madam,

In supersession of Para 3.36 and Para 14, 14.1, 14.2 of Annexure II A and Annexures X, X-A, X-B & X-C of the guidelines of MPLADS, issued in August 2012, the following may be replaced as Paras 3.36, 3.36.1 and 3.36.2 in the MPLADS revised Guidelines of August, 2012:-

"**3.36   One MP- One Idea:** In order to foster a grass-root bottoms-up approach to innovation and development and to arrive at solutions for local problems, which are sustainable and scalable, there is a need for seeking out and campaigning for ideas that have the potential to solve challenges. Accordingly, based on the innovative ideas received from the local people regarding developmental projects, a 'One MP – One Idea' Competition may be held in each Lok Sabha constituency annually to select the three best innovations for cash awards and certificate of appreciation for next five best innovations. These awards will be given on the specific request of Hon'ble MPs to promote such a scheme in their constituency. The announcement calling for applications in prescribed format would be made by the Nodal District Authority through various media viz. print, radio, television etc. It must be ensured that the announcement details are put up on the relevant website(s) as well. The Competition will invite innovative solutions in the areas of education and skills, health, water and sanitation, housing and infrastructure, agriculture, energy, environment, community and social service, etc. The innovative solutions can be submitted by any individual or by a group of individuals, industry, industry consortia, academia, NGO or other institution from the constituency. The format for submission of application is given at Annexure-I. All entries will follow the same screening process.

3.36.1 A Selection Committee may be set up with the mandate to screen all applications. The Selection Committee shall be headed by the DC/DM of the Nodal District and shall consist of eight members from (i) Engineering, (ii) Finance, (iii) Health and sanitation, (iv) Academia,(v) Industry (vi) Banking and Financial Institutions and (vii) two members from Social sector/NGOs to be nominated by

Hon'ble MP. The members from Engineering, Finance, Health and Sanitation sectors will be nominated by DC/DM and should be from the Central/State/UT Government. The members from Academia, Industry and Banking & Financial Institutions shall be of repute & distinction in their own field and shall be nominated by DC/DM. The Selection Committee will select the three best innovations for cash awards and next five best innovations for certificate of appreciation. In the event a large number of applications are received, DC/DM, in consultation with Hon'ble MP, may constitute a Screening Committee for initial screening of the potential applications for further evaluation by the Selection Committee.

3.36.2 Cash awards of Rs. 2.5 lakhs, Rs. 1.5 lakhs and Rs. 1 lakh will be awarded to the first, second and third prize winner respectively. In addition to the award money, other administrative expenditure involved in arranging such events including issuing advertisements, holding meetings, etc., subject to a maximum of 10% of the total awards' amount of Rs. 5 lakhs, Rs. 50,000/- will also be permissible under the MPLADS Guidelines. The total amount of awards of Rs. 5 lakhs and administrative expenditure of Rs 50,000/- will be debited to the MPLADS funds of the Hon'ble MP promoting the Scheme. In order to ensure that the scheme would be able to foster a spirit of innovation and grass-root level competitiveness and spur the innovation movement in the country by involving a large cross section of people, the award function should be given a wide publicity. The awards shall be given away by the Hon'ble MP in a public function with adequate media coverage. A Certificate of honour as per Annexure – II will be given to the awardees. The Certificate of appreciation as per Annexure - III will also be given to the next 5 best innovations."

2.   These instructions may be strictly adhered to.

3.   This issues with the approval of Hon'ble Minister, Ministry of Statistics & Programme Implementation

Yours faithfully,

(R. Rajesh)
Director (MPLADS)

Copy for information to:

13. All Hon'ble Members of Parliament (LokSabha/RajyaSabha).
14. The Secretaries, Nodal Departments, dealing with MPLADS (All States/UTs).
15. Rajya Sabha Committee on MPLADS, RajyaSabha Secretariat, New Delhi.
16. Lok Sabha Committee on MPLADS, LokSabha Secretariat, New Delhi.
17. To all concerned in MPLADS Division.
18. NIC for uploading on the MPLADS Website.

Annexure 7
Courts of Tomorrow

Background

In the last decade, the Government has made several efforts to improve access to justice by introducing ICT interventions in Justice Administration. A number of schemes and programs such as the e-Court Mission Mode Project, Modernisation of the Police Force Scheme (MPF), Crime and Criminal Tracking Network Schemes (CCTNS), eCOPS project amongst others have been introduced with the goal of leveraging technology for enhancing the efficiency of these systems. However, there has been a lack of a coherent vision and coordinated action amongst the various stakeholders on the ground. It is to fill in this gap and create a unified vision and action plan, that the Courts of Tomorrow project was conceptualised.

The foundation for the *Courts of Tomorrow* Project was laid in the National Mission for Justice Delivery and Legal Reform which was constituted with a view to realise the objectives set out in the Vision Document of the National Consultation for Strengthening the Judiciary towards Reducing Pendency and Delays. The initiative seeks to act as a force multiplier to the on-going ICT enablement initiatives of the Judiciary, Courts and the Government.

The Government is implementing a project for computerization of District & Subordinate Courts in the country and for upgradation of ICT infrastructure of the Supreme Court and the High Courts under the e-Courts Mission Mode Project (MMP). Under the project, 12000 courts in 2100 court complexes are expected to be computerised by 31.3.2012 and 2249 courts in 969 court complexes are expected to be computerized by 31.3.2014. The total estimated cost of phase I of the project is Rs. 935.00 crore. The National Informatics Centre (NIC) is the implementing agency of the project.

To give effect to the extensive computerisation plan as laid down by the e-courts MMP, the *Courts of Tomorrow* initiative will assist the judges and the registrars to obtain the best in-class ICT tools, to aid them in the dispensation of justice and administration of courts.

Courts of Tomorrow

The '*Courts of Tomorrow*' initiative suggests the following ten interventions based on the study and analysis of existing initiatives in the Indian courts and with inputs from Judges and Registrars of the Delhi and Bombay High Court. These recommendations are directed towards technology adoption for delivery of timely justice.

1. Information Infrastructure for the Courts

2. Interconnection of Courts, Prisons and Police Stations
3. ICT enabled Court Rooms
4. Integrated Case and Document Management System
5. Digitisation, E-filing and E-Registry
6. E-service
7. E-orders, E-copies and E-causelists
8. E-administration
9. Provide Citizen Centric Services
10. Managed Services Model for the Judiciary

1) **Information Infrastructure for the Courts: Broadband Network & National Data Centre**

The on-going ICT enablement of the Indian Judiciary is bringing forth the need for a highly secure, reliable and high speed network connecting all the courts in the country. It is suggested that all courts should be brought on to a unified network and a national data centre.

Additional Notes:

I. As already seen in the Delhi High Court, there is a massive up gradation of their internal network to a high speed, secure and reliable intranet to enable faster transfer of case files, which clearly shows the emerging need of a highly secure, reliable and high speed network.
II. Last Mile Connectivity and WAN is to be provided under the e-courts mission mode project to all court complexes

2) **Interconnection of Courts, Prisons and Police Stations**

A number of institutions play a key role in the delivery of Justice in the country. Apart from the courts, these include the prisons, police, forensic labs, government hospitals, etc. To speed up exchange of information, all Courts, Prisons and Police Stations must be interconnected and suitable interfaces must be developed to facilitate easy exchange of information. Along with high speed network, suitable facilities for video conferencing, sharing of documents and for audio-video deposition and recording of evidence should be made available. This will allow witnesses (especially high-risk witnesses, child witnesses, old and infirm witnesses) to be present via video conference in the court. It will also encourage audio-video depositions of evidence (supplemented by digital transcriptions; authenticated by the witness and the judges using digital signatures/bio-metric devices such as signature pads and fingerprint readers). Video conferencing can also be used to bring in government officials and experts from the forensic sciences lab, hospitals, etc.

Additional Notes:

I. The Bombay High Court is successfully communicating with its respective police stations through email since last one year. It gives them speedy access to the police station and vice versa. The communication between the Police Stations and Courts usually happens on the following accounts:
   a. Police Station to Court: FIRs, any other information updated post the FIR is filed and the final report.
   b. Court to Police Station: Orders passed and summons issued.
II. The Delhi High Court has connected to the forensic sciences lab via video conference for several cases and shortly proposes to connect with all prisons in Delhi.

3) ICT enabled Court Rooms

ICT enabled court rooms will revolutionise the way justice is delivered in the country. It will not only decrease the hassles of the court staff, the litigants and the lawyers but also increase the efficiency of the Judges. ICT enabled court rooms will be equipped with touch screen tablets for Judges, along with case management software, access to e-library and other additional hardware and software to facilitate the court proceedings.

Additional Notes:

I. The first complete paperless e-Court in the Delhi High Court (Court No. 24) started functioning as early as 15th December 2009. As of now 9 courts in the Delhi High Court are running as completely paperless e-Courts and this digital infrastructure has enabled judges to process files and information faster.
II. Bombay High Court is already using video conferencing facility to bring in Judges from different locations in relation to cases.
III. Additional tools/technologies which could be of use to the Judges in the court room need to be explored. For e.g. Judges could be provided with digital pens and corresponding software/hardware to make (digital) notes; mobile digital authentication tools.
IV. If use of proprietary software leads to technology dependency and redundancy must explore avenues such as use of open source software solutions. Bombay High Court has been successfully using open office.
V. Need to explore the use of mobile technologies which can be harnessed for improved efficiency of the courts.

4) Integrated Case and Document Management System

An integrated case and document management system will enable smooth flow of case information, easy and any time access to all relevant documents. This system could also provide an inbuilt Case Tracking and Monitoring system along with a time table for each case.

Additional Notes:

I. *The Bombay High Court has developed an interesting mechanism for putting time lines against each case. This software has been developed in house and is an optional/additional functionality made available in the existing system.*

II. *The National Data Grid as a consequence to aid in planning has been piloted across four High Courts in September 2013 and is being rolled out at a National Level*

5) **Digitisation, E-filing and E-Registry**

Digitisation: A dedicated effort towards digitisation is required across all courts, as a first step towards paperless E-courts where digitized data is of proper quality and has functionality. As detailed under recommendation no. 10, providing of trained manpower and machines to the courts to accelerate the digitisation efforts should be done by means of a managed services model. All existing cases and court records must be digitised in a phase wise manner as decided by the respective court. The digitised records must be search friendly and should be indexed by key parameters for easy retrieval.

E-filing and E-Registry: While the old and existing cases must be digitised, the next obvious step for E-courts is to move towards E-filing, so that new cases need not undergo the tedious task of digitisation and the process of filing is simplified for the litigant and the lawyers. E-Registry is a pre-requisite to E-filing since the scrutiny and verification of the e-filed documents will have to be done by the court registry online. Online payment of court fees must also be made available to make the entire filing process e-enabled.

Additional Notes:

I. E-filing should not be made mandatory in the beginning but the courts should move towards a complete paperless filing procedure in the next 5 years. Though, to begin with, e-filing may be made mandatory for the largest litigator – the government itself.

II. According to estimates of the Delhi High Court, e-filing will save approximately 40,000 A4 size pages every day, which is equivalent to saving approximately 5 trees a day. They will also make unimaginable savings on the court real estate since there will be no need to maintain paper files once they completely digitise all old files and reach a stage of mandatory e-filing, thus becoming completely paperless e-courts.

III. Online payment of court fees has been successfully going on in the Bombay High Court. The State Government of Maharastra has created an e-payment platform for payments to be made to Government of Maharastra, through https://gras.mahakosh.gov.in/echallan/ - The Bombay High Court is encouraging

the use of this platform for making e-payments to the High Court. The response to this initiative has been highly encouraging.

6) E-service:

The service of summons is one of the principle reasons for delay in a case progressing through the courts. A hybrid system needs to be developed which will use multiple options such as email, SMS along with the use of post offices across the country. Appropriate technology solutions for process servers such as use of GPS enabled hand held devices will ensure authenticated and transparent delivery mechanisms.

a. Service of summons, notices, warrants can be done via email/SMS for those who have provided their email IDs/mobile phone numbers.
b. In cases where recipients do not have email IDs or do not have access to the internet, a hybrid system could be used whereby e-mails would be sent to the nearest post-office/courier office where it would be printed out and served on the recipient locally (Ahmed, 2009). The digitally authenticated service report would be transmitted to the court registry via e-mail.
c. To create an authentic proof of the delivery of the notices and summons, hand-held devices can be put to use to tag the delivery location via GPS and also photograph the location/individual. The use of hand-held devices will make the entire process more effective, transparent and will also cut down the time taken in completion of service which is a major contributor to delay in court cases.

Additional Notes:

I. Several Judges have suggested that delivery of summons is a time taking process and thus a big bottleneck in the current system. Steps taken to expedite this process will definitely reduce the time to justice.

II. Service of summonses, notices, warrants can be done through Use of the Post office for delivery of summons and making payments has been greatly appreciated. A pilot is currently underway at the Delhi High Court in close coordination with the Department of Posts, GoI.

7) E-orders, E-copies and E-causelists

E-orders: Order and judgments dictated in open court or in chambers will be keyed in by the typists onto their computers which can be accessed by the Judge and corrected without requiring any draft being printed on paper. The finalized orders/judgments would be signed by the judge using his digital signature and would be added to the relevant e-case files.

E-copies: Digitally signed copies of orders and judgments would be uploaded instantly onto the court website. E-copies of entire e-case files would also be made

available on-line to the parties or authorized personnel. Certified copies either in paper form or digital form would be provided by the court registry.

E-causelists: The courts should move towards online cause lists which would be made available through the court website and kiosks in the court complexes. Parties and their advocates could be alerted of their next dates via e-mail or SMS.

Additional Notes:

I. The Delhi High Court has decided to not print any causelists from July 2012 onwards. This major step will make them save almost Rs. 1 Crore/year along with saving 66,000 A4 size paper every day, which is equivalent to saving 8 tress being cut every day.

II. Almost all High Courts today are providing online cause lists. Some of them are also offering SMS alerts to the registered parties.

8) **E-administration**

The court administration will also need to be ICT enabled along with the use of ICT in the courts. To turn the administration paperless, will need a document management system, a workflow based software (like e-office) and digitisation efforts to convert the existing documents. Further, e-meetings should be encouraged, where members could participate virtually via video-conferencing and all meeting documents, agendas, etc. could be circulated online. Authentication of documents would be done by using digital signatures preferably mobile based. The e-meetings could be fully archived in an indexed database for easy search and retrieval.

Additional Notes:

I. *E-office, a software product developed by NIC, may be used by the various courts to manage their administration and movement of e-files. The Delhi High Court is currently piloting this software for administrative use.*

II. *The Delhi High Court has been successfully conducting e-meetings. They also have an intranet portal where the agenda, relevant documents and minutes of the meeting are uploaded and archived. They recently had their first full court e-meeting, wherein all Judges joined in through their tablets or iPads, and all files were made available online. Just one such meeting saved more than 16,000 pages.*

III. *The Bombay High Court has recently followed a complete online recruitment process for recruitment of clerks.*

9) **Provide Citizen Centric Services**

Courts must develop an effective citizen interface for providing citizen centric services. Vital information can be made available to the citizens through emails, SMS,

mobile apps, IVRS systems and an informative website. IVRS Systems can be used for public queries regarding case status and any other details. Informative Website should include General Court information; Cause lists; Roster; Display Board; Court fees; Case status; Orders and judgments; Online forms for applications for urgent listing, inspection, process fee etc.; Certified copies; Online filing; Office circulars; Map and directions; FAQ Section, etc.

Additional Notes:

I. *Maharastra provides a host of citizen centric services through http://court.mah.nic.in/*
II. *It may be suggested that court websites could be bilingual and should also follow the accessibility policy of the Government of India.*
III. *Open source content management tools must be used for developing websites and also for the intranet.*
IV. *A very detailed set of FAQs (59 Questions) is available on the Delhi High Court Website at* http://delhihighcourt.nic.in/faq.asp

10) **Managed Services Model for the Judiciary**

After the identification of roles and manpower required it is recommended to turn to a managed services model the functional control of the Courts and funded by the Government to increase the efficiency of the system and speed up certain processes. The following human resource needs of the courts could be serviced:

1) For Digitisation (man and machine)
2) For encouraging and supporting e-filing
3) IT Manpower for software development
4) IT Manpower for maintenance, troubleshooting and support for networks, hardware and software
5) Judges Support Centre providing secretarial and research support

Additional Notes:

I. Managed services model has been supported by the Judges on the software sub-group under the National Mission.
II. The process of digitisation at courts across the country has been very slow or a non-starter because of lack of availability of in-house manpower at the courts. The managed services model will provide trained staff to the courts to enable the complete digitisation of all records of the court.
III. The Delhi High Court has already set an example, whereby they have an in house team for software development and maintenance and they have outsourced their digitisation work to a particular agency along with setting up of a process and quality parameters to evaluate their work. All digitisation work is done within the Delhi High Court premises by the trained staff of the outsourcing agency.

The process of e-filing will enable the new records to be digital at source and will therefore help in putting an end to the digitisation process, once all the old records have been digitised. While e-filing is just the input side of the work flow, unless the entire work flow is e-enabled by use of the integrated case and document management systems, there will remain a need of converting e-files to paper files and vice versa. Thus, until the time the entire system gears up to become e-enabled, there will be a need of temporary but suitably trained manpower, to support this conversion back and forth. It is suggested that the managed services model may provide this manpower support.

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