

**Summary Note for
Global Innovation Roundtable,**

November 14-15, 2011 | New Delhi, India

I Introduction

On November 14-15, 2011 in New Delhi, India, the National Innovation Council (NInC) in partnership with the World Bank Institute organized the Global Innovation Roundtable, themed ‘Innovations to address challenges of access, equity and excellence.’ The heads of innovation from 15 governments and several innovation experts discussed the less charted road of broad-basing innovations to meet key development challenges.

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.

During the morning of the second day, the Prime Minister Manmohan Singh released NInC’s First Report to the People 2011 in the presence of Finance Minister Pranab Mukherjee, Minister for Human Resource Development Kapil Sibal, Minister for Micro, Small, and Medium Enterprises Virbhadra Singh, Deputy Chairman of Planning Commission Montek Singh Ahluwalia and the NInC Chair, Sam Pitroda (Adviser to the Prime Minister on Public Information, Infrastructure and Innovation). The Government of India also committed \$20 million as seed money for NInC’s \$1 billion Inclusive Innovation Fund to promote innovation that improves the quality of life of the BOP population.

II First Day Summary

II.1 First Session – Global Innovation Ecosystems

Sam Pitroda, Chairman of the NInC, chaired the session. The panelists included:

David Willets	Minister of State for Universities, UK
Nicolas Princen	Advisor for new media and information technology at the office of France President Nicolas Sarkozy
Aneesh Chopra	Chief Technology Officer, White House, USA
Don Russell	Secretary, Department of Innovation, Industry, Science & Research, Australia
Petri Peltonen	Director General, Innovation Department, Ministry of Employment & Economy, Finland
Sylvia Schwaag Serger	Deputy Director General, International Strategy & Networks, Sweden

Yigal Erlich	Chairman, MATIMOP, Ministry of Industry, Trade & Labor, Israel
Leonardo Rios Guerrero	Director of Technology and Business Innovation of the National Council of Science and Technology, Mexico
Marije Hulshof	Director NL EVD International, Ministry of Economic Affairs, Agriculture & Innovation, Netherlands
David Naylor	President, University of Toronto, Canada
Roberto Zaghera	Country Director, World Bank

The key issues and trends discussed included:

- The definition of innovation has evolved and moved far beyond from creating new products to encompass services, processes, business models and every aspect of working or conducting business today.
- Most governments are prioritizing innovation as they realize that promoting innovation is the key for a nation to become more productive, stay competitive and sustain economical growth.
- Countries have invested in creating special bodies for innovation. Developed economies such as Sweden, Australia, and Canada have focused on sustaining their economic advantage through innovation while developing countries such as India, China, and Mexico need to deploy innovation to address other issues. For India, the next decade is critical to create better opportunities for over 500 million youth.
- Public R&D funding can foster industries of the future, generate high-quality research, address national challenges and opens up new opportunities. It promotes a culture of collaboration within the research sector and between research institutions and industry.
- Well-organized dissemination of new technologies, processes and ideas can foster innovation across the economy, particularly among small and medium-sized enterprises
- Improved coordination, creation of networks and platforms is needed between universities research institutes, private sector, funding agencies, venture capital, and regional and international actors.
- Innovation domain has shifted in many cases from large institutions to individuals, small groups, and private sector. Mechanisms to identify, nurture and mentor them are critical.
- Venture capitalists are playing an increasingly vital role in nurturing innovation, however the recession has hampered their funding potential. The role of the government in the innovation process is to act as funder and facilitator, creating and nurturing platforms for clusters of innovation.
- A clear need to better understand mechanism to take groundbreaking research from university labs, convert them into commercially viable ideas and scale them up in the marketplace exists.

- For innovation to take root, a strong culture of experimentation is needed since most innovative ideas fail. A majority of the developing countries lack this culture.
- Creating public-private partnerships for innovation especially to reach the bottom of the pyramid are becoming more important.

II.2 Second Session – ‘Dreaming it and Doing it’

Roberto Zagha, Country Director of the World Bank in India, chaired the session. The panelists included:

Geoff Mulgan	Social Innovation, NESTA, UK
Devi Shetty	Founder, Narayana Hrudayalaya and Member, NInC
Samir Brahmachari	Director General, Council for Scientific and Industrial Research and Member, NInC
Anil Gupta	Executive Vice Chair, National Innovation Foundation and Member, NInC
D. R. Mehta	Founder, Bhagwan Mahaveer Viklang Sahayta Samiti (Jaipur Foot)

The key discussions included –

- New kinds of innovation are growing such as user innovations, financial innovation, creative innovation, process innovations, service innovations, open innovations. There is a need to understand these innovations and create a network and platform for these to mature and become commercially viable.
- Confidentiality and IP Rights Protection can increase costs and decrease free knowledge especially limiting inclusive innovation. Open Source Drug Discovery model of CSIR can help produce drugs of affordable prices by leveraging unconventional collaborative networks.
- Open innovation embodies the notion that in the economy, marketplaces are emerging for ideas that will challenge the conventional thinking in areas that include ideation, research, product development and IP. It reaches outside the four walls and literally attracts everyone those who are willing to solve problems.
- Some European countries are now seeking to integrate social innovation into R&D policy and investments.
- There is need to invest in primary and secondary education to ensure that the quality of students in higher education are up to the mark.
- Life expectancy is increasing, birth rates are going down, taxpayers’ money cannot pay for the health care and governments will have to provide quality healthcare at lower prices. Even 100 years after the first heart surgery, less than 10% of the world’s population can afford it; there is a need to move away from conventional healthcare models and explore and adopt models based on business principles like Narayana Hrudayalaya to deliver healthcare to everyone
- It is important to measure all areas of innovation – design, organizational innovation, training, skills, management – and not just R&D.

- Quality healthcare is likely to continue to be a mega challenge as in addition to lack of funding, a huge shortage of technically professionals exists worldwide. WHO estimates this shortfall to be 4 million healthcare workers but given the unmet needs of developing countries, this is could be a conservative estimate. It has become urgent to find innovation solutions for the healthcare industry.
- A global university for medical education and technology borrowing curricula from USA and European universities and leveraging cloud computing can be an innovative ideal to work towards.

II.3 Third Session – ‘Learning from Global Good Practices’

Sam Sharpe, Country Head of DFID, chaired the session. The panelists included:

Veli-Pekka Saarnivaara	Director General, Tekes, Finland
Yigal Erlich	Chairman, MATIMOP, Israel
Alan Hughes	UK Innovation Research Centre
Don Russell	Secretary, Department of Innovation, Industry, Science & Research, Australia
Dr. Cees de Bont	Dean of Faculty of Industrial Design, Delft University of Technology, Netherlands
Carl Dahlman	Associate Professor, Georgetown University
Brian Gaves	Director of Business Development, Imperial Innovations

The key discussions included –

- Countries that invest more in R&D generally have higher GDP.
- It is essential that national policy decisions that have direct bearing on innovation and enterprise should be customized for various sectors. Drivers of innovation differ across agents and governments and need to be accounted for in designing inclusive innovation policies.
- It is critical to treat public sector intervention as venture capital competing against private sector investments in R&D effort and accordingly find the competitive advantage of government funding.
- Universities play a multi-faceted role in cultivating innovation and cannot be boxed into one single or simple role. They provide highly skilled graduates, public knowledge exchange platform, research knowledge, and solutions to problems.
- In promoting inclusive innovation, there is a strong need for creation of stronger global networks to share best practices, to provide information on inclusive innovation products, services and distribution methods, and to attract funding in supporting national and regional inclusive innovation efforts.
- Global competition motivates exporters, regardless of their size, to raise their productivity. Exposure of exporting companies to new global technological developments can facilitate them to adopt technologies resulting in enhanced output.

- In developing inclusive innovation policies, the government should map sources of innovation, offer incentives to different actors to develop, acquire, produce, disseminate and use innovations, and create the instruments to promote innovation (e.g. for government agencies, instruments for budget, directives, monitoring and evaluation and for non-government actors, instruments for financial and fiscal incentives, procurement)

II.4 Fourth Session – ‘Developing an Innovation Ecosystem’

Aneesh Chopra, Chief Technology Officer, White House, USA, chaired the session. The panelists included:

Iain Gray	Technology Strategy Board, UK
Saurabh Srivastava	Chairman, CA Technologies and Member, NInC
Jean-Francois Rischard	Former Vice President, World Bank, Europe
Kiran Mazumdar Shaw	Chairman, Biocon and Member, NInC

The key discussions included –

- Government support for R&D and innovation is necessary. Well-planned government action in the areas of innovation policy, standards, regulation, procurement and often with government also as lead customer can change markets and create opportunities to stimulate business innovation, just like in the Karnataka state of India.
- Ability of companies, particularly SMEs, entrepreneurs and individuals in accessing finance and overcoming the “valley of death” is critical to promote innovation.
- The important journey between concept and commercialisation often comprises creating linkages between public and private funding, promoting knowledge exchange and open innovation, and creating platforms to demonstrate the use of new technologies.
- Creating strong technology clusters across the country on all possible sectors, often supported with generous tax-based support, international R&D and innovation partnerships is key to advancing the national innovation agenda just like in Canada.
- In most countries, innovation policy tends to have an S&T and R&D focus, even if such words as ‘innovation ecosystem’ and ‘inclusive innovation’ are used.
- Promoting innovation requires creating a culture and environment, which is mostly about people, technology and networks. It is, therefore, critical to invest in human capital.
- Innovation ecosystem needs to be created around innovators and not innovations. In formulating innovation policies, it is more important to understand the distinction between innovators than innovations. Broadly, there are three types of innovators, and thus three innovation strands – R&D driven strand, creative class driven strand, and business remodel driven strand.

III Second Day Summary

III.1 First Session – ‘Taking Innovation to Scale’

Sam Pitroda, Chairperson of the NInC, chaired the session. The panelists included:

R. Chidambaram	Principal Scientific Adviser to the Prime Minister of India – National Knowledge Network Initiative
K. Kasturirangan	Member, Planning Commission – Global Information Systems Initiative
Nandan Nilekani	Chairman, Unique Identification Authority of India, Government of India
T. Ramasami	Secretary, Department of S&T, Ministry of S&T, Government of India
B. K. Gairola	Director General, National Informatics Centre
Sungchul Chung	Former President, STEPI, Korea
Sylvia Schwaag Serger	Deputy Director General International Strategy and Networks, Sweden
Phillippe de Taxis du POET	Minister Counsellor, Head of Science & Technology, Delegation of the European Union to India
Riku Makela	Director, FinNode, India and Counsellor, Innovation, Embassy of Finland

The key discussions included –

- Scaling innovation is about converting risky ideas into innovations through “death valley.” Increasing the synergies between industry, research and academia can significantly help in scaling innovation and each sector has a unique value proposition in this process. Of 100 ideas, one is workable; the academic sector can generate risky and creative ideas. Of 100 workable ideas, one works; the research sector adds quality to ideas and innovations by minimizing risks. Of 100 working ideas, one profits; the industry sector generates profit generation by leveraging innovations.
- Scaling innovations for national prosperity requires a new type of social capital and viable innovation partnerships, based on trust and risk preparedness. Fostering viable and sustainable partnerships within the mind-to-market chain and financing innovations are important to address this challenge.
- From the National Innovation Foundation experiences, we learn that grass root innovators create affordable and social innovations. 160000 innovation practices are currently registered and a large untapped potential exists. Due diligence on marketing potentials and new mechanisms for leveraging grass root innovations may well be the next step forward.
- An innovation ecosystem needs to be readjusted to the changing demands of society, markets, availability of resources and is always on an evolutionary path. The e-governance paradigm has shifted from top-down (taking government to citizens) to bottom-up approach (taking citizens to government).

- The future of innovation in governance lies in treating information as the fourth pillar of democracy, after executive, legislative and judiciary. Information is a powerful lever of economic and social development and opens channels for billions of people to innovate.
- Innovation can be taken to scale through investment in people, systems and platforms.
- Innovation policies need to be oriented in response to the changing societal needs. In Korea, industrial competitiveness drove the STI agenda but the government realized that strong ICT capabilities could also directly benefit the citizens through improved e-governance in 2001. Major initiatives (such as home tax and e-procurement systems) were undertaken and government became an enthusiastic customer of the ICT development. In 2010, Korea ranked first in UN e-Government Development Index. The success resulted from strong infrastructure, diffusion of mobile communications, comparative advantage in IT industry, political democratization and early adoption of new technologies.
- Some challenge areas for policy-makers in promoting innovation include availability of resources, mandate priority, internationalization within the economy, closed bureaucratic system, complex legal system, and tolerance to new ideas.
- Europe is working towards strengthening an Innovative Union as a result of a strong competition for investments and markets. Emerging economies are catching up quickly. In addition, globalisation of knowledge production and innovation capacities, impact of the crisis on public and private finance especially for innovative SMEs, means that Europe too has to address major challenges with reduced means.
- The European Innovation Partnerships is a new, challenge-driven, result-oriented, and politically-driven approach. It acts across the whole research and innovation chain to step up R&D efforts, coordinate investments in demonstration and pilots, anticipate and fast-track regulation and standards, mobilise 'demand' to ensure that any breakthroughs are quickly brought to market. It has streamlined, simplified and better coordinated existing instruments and initiatives while involving all key players across, the innovation value chain, borders, disciplines, sectors, institutions.
- For innovation to take root there is need for a strong culture of experimentation, as a lot of innovative ideas fail. The majority of the developing countries lack this culture.
- Promoting innovation in a country depends on institutional context and framework conditions (legal system, macro- and micro-economic conditions, research and education systems, governance, financing), resources (money, competencies, power), mandate, goals (competitiveness, societal challenges). Significant difference exist between countries and actors and each country needs to develop its own way of promoting innovation.
- The key characteristics of a challenge-driven innovation approach include seeing challenges as opportunities, involving users, creating collaboration, handling complex governance and addressing global problems through local solutions.
- One example of taking innovation to scale is the Global Information Systems Initiative in India. It aims to actively engage and cater to needs of government,

enterprises and citizens by creating a multitude of information systems modules. At the same time, it aims to effectively network these modules through an information platform. In making such an initiative successful, it is important to include the checks-and-balances of government systems and the result-oriented performance efficiency of the private sector.

III.2 Second Session – ‘Innovation and Intellectual Property’

M.K. Bhan, Secretary, Department of Biotechnology, Ministry of Science and Technology, Government of India chaired the session. The panelists included:

Neil Feinson	UK Intellectual Property Office
Pradeep Choudhary	Secretary, Department of Industrial and Promotion, Ministry of Commerce and Industry, Government of India
Biswajit Dhar	Director General, Research & Information Systems for Developing Countries
Kiran Hosakote	Country Head, Intellectual Ventures, India
Kumar Ranganathan	Principal Engineer and Manager, Frugal Engineering, Intel, India

The key discussions included –

- The main beneficiaries of strengthened intellectual property rights are often the industrialised countries, while the middle-income countries account for most of the world population.
- It is critical to adapt patent and design frameworks to changing circumstances of the global economy. Moreover, copyright framework should adapt to new technologies and there needs to be an integrated approach to enforcement.
- Patents provide a “necessary legal framework for economies in developed countries where there is both a good technological and scientific infrastructure and a supporting market for new health-care products.”
- In industries where it is relatively easy for competitors to copy new products and processes, such as fine chemicals and pharmaceuticals, patents are vital for sustaining the large, risky R&D expenditures needed for product and process innovation. In industries where copying is difficult and expensive, patents per se are not important for appropriating the benefits from innovation.
- Technological activity in many developing economies consists mainly of learning to use imported technologies efficiently rather than of innovating on the technological frontier. Experience of Korea in a wide variety of sectors, Taiwan in electronics, and India in pharmaceuticals, supports this view.
- Existence of a strong National System of Innovation, characterized by government’s investment in R&D, is imperative for the graduation of the developing countries from imitators to innovators, just like in the cases of Korea and Taiwan.

- Governments opt for IPRs to incentivise innovators since this can be an optimal solution to address “market failure” in creating new knowledge and technology by granting the innovators temporary monopoly to recoup their costs.
- IPR solves the ‘appropriability’ problem associated with technology, provide incentives for undertaking R&D, and promote competition by encouraging companies to produce new products and services.
- Purported benefits of IPRs include stimulation of innovation by private agents, use of knowledge in productive activity, and greater dissemination of new knowledge to other agents.
- Absence of the right balance between patent rights and keeping market competition alive can deter innovation. If patents were allowed on “obvious” inventions, it could thwart competition that might have developed based on the obvious technology.
- Proper balance between competition and the patent law is vital. It is critical to ensure that the raison d’être of the patent system – to promote innovation – should not undermined by rent-seekers looking to abuse the monopoly rights granted by patents
- There is a need for SMEs to realize the potential of IP as intellectual property rights (IPRs) allow inventors to recoup the costs of investment in R&D by using temporary market exclusivities.
- In commercializing inventions, it is important to promote systemic IP awareness and incentives, invention funding with impact metrics and awareness about role models.
- A smooth IP licensing regime opens freedom of action to unlock new market value and must be judged by how well it serves the public purpose. Foreign IP raises the cost of building inclusive products for India and other countries. Since all IP cannot be indigenously developed, foreign IP is important for inclusive innovation. Creative ways must be found to incentivize foreign IP holders to want to license their IP to Indian companies even though India will not have much material impact on their revenue today. That might mean creating a government backed IP licensing fund that provides the credibility that foreign licensors may need before they agree to license their IP to Indian entrepreneurs.
- Unlike developed nations that have the infrastructure and are focused on technologically ‘cutting edge’ innovations driven by market demands, developing economies like India need to promote inclusive innovation models with an emphasis on useful and relevant applications aimed at improving the quality of life of millions of poor people. These need to be based on financially viable business models which deliver an almost immediate return-on-investment and reduce end-user cost of ownership, simultaneously catering to diverse set of users across the ecosystem especially those with no or low skills, and are viable even when there is lack of basic infrastructure such as electricity and water.
- Developing countries continuously need to ensure that their IP enforcement regime is up to the mark matching the country’s needs.

III.3 Third Session – ‘Global Collaboration on Innovation’

Sam Pitroda, Chairperson of the NInC, chaired the session. Several possibilities for global collaboration were shared. The key discussions included –

- Creating a special link in the National Innovation Council website to host the materials from the Roundtable such as the presentations, case studies, and photographs will make future collaboration easier.
- Summary notes of the Roundtable will be developed and circulated amongst all participants.
- Whitepaper on global good practices on innovation policies based on case studies presented during the Roundtable could be shared.
- Partnering countries were requested to share at least three datasets on their innovation programs with the global community.
- The need to collaborate on mechanisms to share knowledge and good practices specifically in the field of inclusive innovation was noted. A platform similar to UNDP’s Solutions Exchange can be helpful.
- Participating countries could inform each other when they call for proposals so that the call can be promoted in other countries for greater participation.
- A global think tank can be created to promote inclusive innovation. This think tank can be a network of national and international bodies that collaborate on and advocate for programs and policies on inclusive innovation.

IV Conclusion

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. While releasing of NInC’s report, the Prime Minister of India mentioned “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 Roundtable echoed the need to have a long-term approach to fostering innovation. It stressed that the public sector, private enterprises, social sector and venture capital industry need to partner and support programs 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 fueling innovative research.

The Roundtable concluded with various global participants proposing further collaboration and knowledge exchange to mobilize resource, continuing the systemic focus on promoting inclusive innovation and convening a Second Global Innovation Roundtable in a year.