

Update on the National Seminar 'Unleashing Innovation' held at Patna, Bihar on 20th and 21st September, 2013.

The State of Bihar took the laudable initiative of organizing a national level seminar entitled 'Unleashing Innovation' at Patna under the chairmanship of **Shri Narendra Narayan Yadav, the State Minister for Planning and Development** on 20th and 21st September, 2013. **Mr. Ashok Kumar Sinha, the Chief Secretary of Bihar** was also present. The Executive Director and scientists from Technology Information Forecasting and Assessment Council (**TIFAC**), an autonomous body under the DST proactively participated. The **NInC** was represented by Mr. Keerthi L. Kala, Consultant, Ms Bindeshwary Rai, Sr. RO and Ms Veena Upadhyaya, Expert, NInC. The NInC Mentor for Bihar is DG, CII. He was represented by Mr. Anjan Das, ED, CII. **Among several distinguished participants** were the Vice-Chancellors of a number of Universities in Bihar; scientists from the Aryabhata Knowledge University's Aryabhata Centre for Nanoscience and Nanotechnology; National Institute of Design (NID), Ahmedabad; the well-known NGO *Jeevika* set up under the Rural Livelihood Mission; NGOs; young innovators from all over the State; innovative farmers; media reps; and officers from different Departments of the State Govt.

2. The SInC in Bihar is anchored in the Dept. of Planning and Development. **Mr. Vijoy Prakash, an IAS officer and Principal Secretary of the said Dept.** is an officer with a high degree of passion and commitment to the cause of innovation-oriented culture and innovation-led work-ethos. He made a detailed presentation of the initiatives taken at the State level. He said that the State was engaged in preparation of the Roadmap covering 09 sectors namely, Governance, S&T, Skills, Land & Environment, Entrepreneurship's Development, Finance and Public Service Delivery. As for the MSME cluster, the silk units had a good scope for striving for greater improvements in the quality of product. Among the initiatives that figure high on their agenda are a close industry-academia dialogue and alliance; Design hubs in the Universities; Technology Incubation Centers in the Institutes of Technology and Technical Universities; setting up of Bihar Inclusive Innovation Fund; fostering creative learning in schools; allowing multi-disciplinary courses; reduction in the drudgery and tedium for the agricultural laborers; a more prudent use of natural resources like the wood; creation of Bihar Innovation portal; and engagement in the outreach activities and wider dissemination of the initiatives through the media.

3. Delivering her Address in the Inaugural Session of the Seminar, the Expert, NInC observed that the State Govt. of Bihar had taken an excellent initiative in organising a national level seminar with a rich cross-section of stakeholders. The Order constituting SInC dated 31.03.11 revealed a very well-balanced composition. The immediate task at hand before the State Govt. is to draw up the Innovation Action plan (IAP) for the XII Five Year Plan period. The Seminar will help identify the needs of the State and shortlist the ingredients for the IAP which should be getting formulated latest by the end of January, 2014. The evolution in the scope of the term 'innovation' was traced from the time the National Knowledge Commission had brought out its report in 2007 to its embracing the concept of inclusive innovation. What has consistently

remained valid is that reforms in the education sector, and especially higher and technical education sectors remain crucial for acceleration of innovation-driven initiatives. The thrust areas clearly are increased participation of industry in the field of vocational education, redesigning of curriculum, and nurturing of entrepreneurship through University innovation Centers and Technology Incubation Centers. The increasing thrust on innovation-promotion through the NKC's Report, declaration of the Decade of Innovation, the recommendations of the Thirteenth Finance Commission, and the Twelfth Five Year Plan period were highlighted.

3.1 The need to establish an organic link between the SInC and the District Innovation Fund under which Ministry of Finance, GOI provides an amount of Rs. one crore per district, was underlined. The national level initiatives by NInC were dwelt upon. The initiatives taken by the DST and DBT were also touched upon to bring out the thrust that the area of innovation is receiving at national level. The scope for enormous synergy through inter-institutional collaborations was flagged. With particular reference to Bihar where the SInC is chaired by the Chief Minister, it was suggested that in view of the latter's occupations, an executive committee under the chairmanship of the CS may be formed for operational expediency. The internalization of the concern for innovation was also emphasised.

4. The **Chief Secretary**, while acknowledging the usefulness of the innovation-oriented functioning and the utility of scaling up the innovations, expressed the view that the State Govt. may not be the best vehicle for promotion of Innovation in view of the deeply-ingrained risk-aversion and failure-phobia in the govt. sector. Stunning results through innovations like stepping up the production of rice from 125 to 236 Quintals per hectare by a farmer in Nalanda through balanced use of organic, chemical and bio-fertilisers were not feasible in the domain of the government which is hamstrung by agencies of audit and other regulatory apparatuses.

5. **Shri Narendra Narayan Yadav, the State Minister for Planning and Development**, equated the new ideas and thoughts with new discoveries, and said that a new '*Soch*' i.e idea is as relevant as a new '*Khoj*' i.e. discovery. Radical improvement in the field of female literacy was the result of new '*Soch*'. He outlined the areas of efficient water usage for irrigation, aridity-tolerant crop varieties capable of growing in sandy soils; and tree varieties that contain and control soil erosion as areas requiring innovative approaches as 80% of the State's population depends on the agriculture sector.

6. During the discussions, **the following points** emerged:

(i) **Dr. Prabhat Ranjan, ED, TIFAC**, took the participants through his remarkable innovations for the physically and mentally challenged people by bridging the divide between the cognitive and digital sciences. He spoke about the revolutionary changes poised to be witnessed as a result of the 3-D Printing and tissue-culture. He recommended that the country would do well to develop five or six innovation-belts.

(ii) **Mr. Mihir Bholey, Associate Sr. Faculty, NID**, Ahmedabad underlined the need to humanize the technologies Sustainable social development through innovations is a strong

imperative for the inclusiveness of innovation. The growing complexities of urban life with the attendant clutter of transportation and housing call for social and design-related innovations. A thorough study of the problem should precede the design-based and innovation-led solutions.

(iii) **Mr. Anjan Das, ED, CII, representing the DG, CII, the NInC Mentor**, brought out the relevance and criticality of close links between the role of the Central and State Govts. and the innovation-based agenda. Promotion of entrepreneurship, provision of employment-oriented education, and creation of job opportunities, and development of suitable human resource are among the key responsibilities of the governments. He proposed setting up of a Special Purpose Vehicle (SPV) (which may be called the Bihar Centre for Innovation, Entrepreneurship and Competitiveness (BCIEC) in PPP mode between the State Govt. and the industry for a variety of purposes. The key ones would be any or all of the six initiatives namely, Industrial R&D Fund; Post-Doctoral Fellowship Scheme for industrial R&D; Technology Acquisition Assistance Fund; Technology Demonstration Scheme; Techno-preneurs Start-ups' Support Scheme; and Intellectual Property Credit Guarantee Scheme. The details were spelt out by him. It may be patterned on the lines of Global Innovation and Technology Alliance (GITA), set up under section 25 of The Companies Act as a not-for-profit organization in the PPP mode between the DST, GOI and CII.

(iv) **Mr. Janak Pandey, VC, Central University, Patna** said that there is need to improve education at all levels, and reduce the gross mismatch between the research and industry. The term 'innovation' is much wider than the term 'R&D'. He said that innovation-led approach ranks very high on the country's President's agenda. His visits to a Central University is predicated on three factors namely, whether the University has an Innovation Centre; it will put up an Innovation Exhibition; and an interaction between the young innovators and the President will be arranged. He said that his University has set up a Central University Innovation Council (CUIC) to promote, what they call, '*Lok Vidya*'. He flagged the need for increased industry-academia links; start of courses in Energy Engineering; and setting up of Innovation Clubs in educational institutions.

(v) **Ms Ashwini Dattatraya, Joint Secretary, General Administration** apprised the audience of a range of reforms and innovations introduced in the day to day administration by the State Govt.

(vi) **Dr. Amal Kant Jha, Scientific Officer, Aryabhata Center for Nanoscience and Nanotechnology**, Aryabhata Knowledge University cited the example of Japan where nanotechnology has developed like cottage industry. There is an immense scope for application of nanotechnology in the fields of Chemicals, pharmaceuticals, aerospace, and electronics. It is aimed at getting more output from the least resources. The Center has received a grant of Rs. 15.50 crores. The Center is of the firm conviction that their innovations must serve the society. He said that they aim to be market leaders in this field by 2025, and require funding support from the State Govt. He spoke about the enormous potential for nano-based anti-cancer drugs; nano-iron; wound-healers; face-masks; and ink.

(vii) **Mr. P.R. Basak, TIFAC** said that the NInC and SInCs should present themselves as facilitating points for forging and strengthening industry-academia collaborations as these are more often than not instances of win-win situations. There is a need to cut down on product development cycle. He informed about the existence of TIFAC-SIDBI Revolving Fund of Rs. 30/ crores (of which Rs. 10 crores is contributed by the SIDBI). The objective of the Fund is to support entrepreneurs on soft terms. He also spoke about the Srijan Program which catalyses commercialization of the technological innovations.

(ix) **The representative of an NGO** devoted to innovation-oriented rural livelihoods namely, '*Jeevika*' informed about their having set up a Bihar Innovation Foundation (BIF). It is largely devoted to strengthening the activities of the *Jeevika* under Rural livelihood Mission.

(x) **Mr. Keerthi L. Kala, Consultant, NInC** spoke about the new proposed structure of having Cluster Growth Cells in the Ministry of MSME and in the Depts/Directorates of Industries at the States level for nurturing the Cluster Innovation Cells (CICs) at the field level. They will largely act as Knowledge-Partners, and NInC will provide the overarching support in association with the CSIR, DST, DBT and ISRO among others.

7. The State Govt. had invited a large number of grassroots innovators to the Seminar to share their innovations and experiences with the participants. It turned out to be a great learning experience. Experience-sharing by the grassroots innovators yielded a wealth of information. Brief details are as follows:

(i) There is a need for innovations in public policy and its implementation. A beginning may be made by low-cost interventions.

(ii) At the cutting edge level there is also a need for marketing innovations, in addition to the technological and financial innovations. Looking at the import basket of Bihar which had a large share of eggs imported from Andhra Pradesh and Tamil Nadu, he promoted poultry and found a lucrative business in rearing of poultry and sale of eggs.

In the agriculture and allied areas, NABARD provided training to farmers in fisheries and medicinal plants, and supported applications of 17 out of 26 trainee applicants.

(iii) There is a need for more innovative approach to the implementation of the Pradhan Mantri Gram Employment Program (PMEGP). The public policy should promote use of and reasonable return on the jatropha-based bio-diesel. There is no market for bio-diesel in Bihar and the manufacturers are hard-pressed to struggle for market in Andhra Pradesh and Karnataka where it is used in public transport as part of the State Govt.'s public transport policy.

(iv) There should be constant formulation of new Business models to complete the critical supply chains. A group of young entrepreneurs got into the business of acting as intermediaries between the farmers and the food and agro-based industry namely, Godrej, and Hindustan Lever.

(v) A number of grassroots innovators showed or apprised about their innovations. Among these were musical lantern with chargeable battery; easy-to-make boats for use in sudden floods; deriving energy from sullage and waste water; fuel-efficient dredgers for sand-dredging for river-cleaning. A case of efficient and prudent use of bio-fertilizers leading to dramatic increase in rice-yield in Nalanda district was also presented.

8. The three important learnings that emerged from the National Seminar captioned 'Unleashing Innovation' organized by the State Dept. of Planning and Development, Bihar are as follows:

(i) Bihar surely has made confident strides in its pursuit of innovation-driven approach.

(ii) The SInCs should undertake documentation of grassroots level innovations. They should have access to the product-specific State and Centre level laboratories to whom such innovations be referred for validation, and further refinement as the need may be, and prototype testing..

(iii) The SInCs should set up or develop ties with mechanism/s for providing the much-needed technological and financial support for the scaling up and commercialization of the innovation-based products.

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13th October, 2013