

Inclusive Innovation for harnessing developmental potential at grassroots

Abstract

The emerging consensus in the discourse on development is that poor people are not just *sink* of aid and assistance but can also be a powerful *source* of ideas and innovation. Almost a quarter century of journey of Honey Bee Network has demonstrated unambiguously, that the innovator at grassroots can indeed become an instrument of decentralized, diversified and dynamic development, locally as well as globally. The g2G model (grassroots to global) became evident when queries for innovation based products and services in India were received from more than 60 countries and products were sold in all the five continents.

There are several ways in which new policy instruments can be experimented through OECD intervention, within the country as well as globally. A word of caution: Scale should not be the enemy of sustainability. The implication is that niche specific innovation is very important for ensuring inclusion of marginal communities. Remembering of course that *minds on the margin are not marginal minds*.

Some of the suggestive strategies are:

- a) Moving beyond microfinance: Towards micro venture finance. If risk capital were so crucial for biotechnologies, information technologies, nanotechnologies why would not it be equally important for grassroots innovation technologies?
- b) Excessive reliance on commercialized models, may temper the prospects of small entrepreneurs and informal sector access innovative technologies. Creating a Technology Acquisition Fund (TAF) can compensate the innovative technology owners to acquire the rights and then license these technologies to small producers at low cost or no cost. This can expand the productive potential of any country at an unprecedented level.
- c) It has often been observed that many innovators do not make good entrepreneurs. The transaction cost to make innovator, investor and entrepreneur meet and join hands are very high. Multimedia, Multilanguage incubation and mentoring platform are the need of the hour. Many more ideas would be shared including the ones dealing with pooling of traditional knowledge practice for generating extremely affordable solutions for agriculture, human and animal health. Honey Bee Network is very keen to join hands with willing partners around the world who are not hesitant in mobilizing the potential of creative, compassionate and collaborative knowledge holders. A significant initiative has already been taken in China, Malaysia and several other countries. The tail has already started wagging the dog by harnessing the fortune at the tip of the iceberg. Obviously, knowledge rich, economically poor people are not at the bottom of all pyramids. They are certainly not at the bottom of innovation, ethical and institutional pyramids. Hence the focus on tip of the innovation iceberg.

Inclusive Innovation for harnessing developmental potential at grassroots¹

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The emerging consensus in the discourse on development is that poor people are not just *sink* of aid and assistance but can also be a powerful *source* of ideas and innovation. Almost a quarter century of journey of Honey Bee Network has demonstrated unambiguously, that the innovator at grassroots can indeed become an instrument of decentralized, diversified and dynamic development, locally as well as globally. The g2G model (grassroots to global) became evident when queries for innovation based products and services in India were received from more than 60 countries and products were sold in all the five continents. A question still remains as to why there is so little content about grassroots innovations on the web. Is it because the innovations occur mainly in India, China, Malaysia, etc., or it is because the leadership in other countries has not yet recognized the potential of such innovation in transforming not only National Innovation System [NIS] but also the culture of experimentation to develop frugal innovations for sustainable development? In my view, the latter is likely to be true. The problem also might be with the conceptual framework of NIS, which has not included the innovations in the informal sector so far. The paradigm has to change if open innovation model has to work towards inclusive development.

Some of the challenges that require rethinking of current paradigm for inclusive development are:

- a. How to ensure that disadvantaged people having remained excluded from goods and services provided by market as well as state are able to afford the basic needs and entrepreneurial opportunities for self-development with minimal transaction costs?
- b. How does one put the unmet technological needs of the poor people on the agenda of science and technology institutions to generate accessible and affordable solutions?
- c. How does one unfold the innovative potential of the individuals and local communities at the grassroots level so as to make poor, not just the *sink* but the *source* of solutions [Gupta, 2006]²?
- d. How does one tap the traditional knowledge associated with biodiversity and other resources such that high quality affordable solutions can be developed *in-situ* or be delivered through *ex-situ* value addition³?

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² Gupta, Anil K, From Sink to Source: The Honey Bee Network documents indigenous knowledge and innovations in India, in Innovations / Summer 2006, www. mitpress.mit.edu/innovations, p. 49 – 66.

³ Gupta, Anil K, Technologies, Institutions and Incentives for Conservation of Biodiversity in Non-OECD Countries: Assessing Needs for Technical Co-operation, presented at OECD Conference on Biodiversity Conservation Incentive Measures in Cairns, Australia, March 25-29, 1996, published in the proceedings, “Investing In Biological Diversity: The Cairns Conference”, Paris: OECD,1997, pp.305-329

- e. What kind of institutions and policies be designed for providing risk capital, support for product development and design, distributed manufacturing and dissemination through commercial, non-commercial channels?
- f. How does one link the innovation, investment and enterprise recognizing that not all the three skills or endowments may converge in one person, place or institution?
- g. How to create partnership between corporate and community initiatives for inclusive development keeping in mind the fact that this will require not only a change in mindset but also institutional culture?

Framework for inclusion:

When it comes to green, affordable, extremely frugal and accessible solutions for improving quality of life, there is not much advantage that developed countries have. On the contrary, because of the prevailing lifestyle and historical availability of resources, generating extremely frugal solutions becomes rather difficult both culturally and institutionally. On the other hand, many Asian countries, having lived through tremendous stress both of resources and delivery systems, are endowed with a natural advantage of frugal thinking. The problem, however, is that macro policies and institutional arrangements may still not be adequate in the emerging Asian economies. Thus, the scope of partnership for generating affordable solutions for the problems faced worldwide. The recent economic meltdown in many developed economies has necessitated a fresh look at conventional model of generating solutions and delivering them to common people.

One has to align the arrangements for providing access, assurances, harnessing abilities and moulding attitudes for dealing with resources, institutions, technologies and culture. The educational system has to incorporate a curricular and pedagogic change so that consumption needs can be constrained and cultural preference for frugal solutions can be reinforced.

The experience of Honey Bee Network provides a framework in which a social movement, voluntary organization and public initiatives can synergize to enrich innovation eco system in the country. It is understood that the experience need not replicate in the same sequence, strategy or structures. In each country, a different model can evolve and actually has evolved. What is important is to realize that certain building blocks will have to be common wherever such an approach is replicated;

The six functions that NIF [National Innovation Foundation] incorporates will have to be conceived in every case because without them, the value chain cannot be built. These are: [i] scouting and documentation of ideas, innovations and traditional knowledge practices from informal sector but also from the young technology and other students from school and colleges, [ii] benchmark, prior art search, validation and value addition through R&D by the innovators as well as in the formal public and private laboratories/workshops, [iii] business development, market research, micro venture finance and joint ventures, [iv] intellectual property rights protection, Technology Acquisition Fund, technology commons, etc., [v] communication, dissemination, social diffusion, creation of public goods and [vi] database development, ICT applications and virtual mentoring, monitoring and collaboration platforms, etc.

These functions will require assemblage of full time people but also creation of networks. For instance, the NIF has managed filing of more than 500 patents in the last ten years of which 300 were filed in the last six months, primarily through *pro bono* help of large number of IP firms. In fact, the maximum *pro bono* help has been received from IP community within the country and outside. Similarly, for value addition, some support is provided by natural product lab of SRISTI but much more is provided by a very wide, collaborative and supportive network of R&D institutions. The MOU with Council of Scientific and Industrial Research [CSIR] and Indian Council of Medical Research [ICMR] further strengthens the linkage between formal and informal science. In every country, such linkages with agricultural, engineering, biotechnological, energy, health and other such scientific institutions will be vital for generating frugal solutions based on people's knowledge. It is true that there are very few institutions even in India, which are completely dedicated to add value to people's knowledge. This is a gap which is evident at global level also.

To ensure that an innovation eco system becomes inclusive, several policy instruments and institutional strategy can be tried at different levels. OECD can take major initiative in primarily three ways: [a] Taking up development of such platforms and knowledge networks which trigger socially inclusive innovations for mutual advantage, i.e., having relevance in both developed and developing countries. [b] Support region-specific innovation incubation system in developing countries to improve prospects of sustainable development and [c] Leverage the comparative advantage for various developing countries/emerging economies in generating extremely affordable solutions for global inclusive development. This may also imply reversal of globalization process, i.e., not just large MNCs should be able to reach the consumers in developing world but grassroots innovators there should also be able to access the market opportunities globally [thus, operationalizing the g2G approach].

A word of caution: Scale should not be the enemy of sustainability. The implication is that niche specific innovation is very important for ensuring inclusion of marginal communities. Given the long tail model of innovation, an eco system cannot be enriched if we do not conceptualize the reality of wide diffusion of some innovations while very limited diffusion of many other innovations. One cannot argue therefore that unless innovations scale up, they have no legitimacy. This has implications for designing financial instruments and other incentives for developing such innovations, which may remain localized. Inclusive development without long tail is impossible. Having said that, we should also remember that *minds on the margin are not marginal minds*. That is, not all ideas, which are on the margin, may remain so with the changing needs and socio ecological contexts. For instance, a bamboo windmill costing 120 USD in northeast of India, innovated by two small Muslim farmers was adapted in Gujarat, western India for use by salt workers [extremely poor people] to pump brine water at a cost of 1200 USD. These people were using thousands of years old counterpoise technology for lifting water from their well spending much more labour and time. Those who could afford diesel engine, were spending far too much of energy and money often involving debts and consequent deprivation. There are a large number of such occupational or survival niches, which have remained, unserved by the modern R&D at all or insufficiently.

Strategies for social transformation:

Some of the suggested instruments for inclusive development are:

- a) Moving beyond microfinance: Towards micro venture finance. If risk capital were so crucial for biotechnologies, information technologies, nanotechnologies why would not it be equally important for grassroots innovation technologies? Is not it strange that there is a global convergence on the concept of micro finance but there is also a global silence on the issue of micro venture finance. It is very difficult to understand as to why the role of risk capital will remain so unrecognized for such a long time. Either it is so because one has not witnessed the availability of innovations at grassroots level or assumption has been made that these innovations can be incubated into products and services without the injection of product development and micro venture finance. None of these assumptions seem valid in the light of the Honey Bee Network experience not only in India but many other countries. It is extremely important that global financial and developmental institutions shed their inertia and overcome their hesitation in operationalizing such funds to promote grassroots innovations.
- b) Excessive reliance on commercialized models, may temper the prospects of small entrepreneurs and informal sector access innovative technologies. Given the cost of filing IP protection, the licensing cost of many productive technologies may be out of reach of small entrepreneurs and producers. It is well known that most of the new jobs are generated by small enterprises worldwide. The ability of such enterprises to generate new innovations are absorbed externally generated innovations may be limited. The concept of Technology Acquisition Fund (TAF) addresses this problem by acquiring the rights of innovative technologies from grassroots and making them available to small entrepreneurs or producers at low cost or no cost. This can expand the productive potential of any country at an unprecedented level by reducing the transaction cost of technological upgradation. At the same time, a small producer is not expected to subsidize the cost of societal learning.
- c) Creating global GIAN [Grassroots Innovation Augmentation Network]: Given the asymmetry in information, skills, resources, and institutional access, a virtual platform is necessary for building value chain around grassroots innovations. It has often been observed that many innovators do not make good entrepreneurs. The transaction cost to make innovator, investor and entrepreneur meet and join hands are very high. Multimedia, Multilanguage incubation and mentoring platform are the need of the hour. The aging population of experts in Europe can easily connect to the younger population in several parts of Asia including India and thus, create new synergy for inclusive development. Large number of technologies and tools in big corporations and other R&D institutions may find applications in valorizing innovations at grassroots. Such a potential has remained more or less unharnessed. On the other hand, many innovations at grassroots can likewise find applications in large corporations. An online open access and also closed access platform can bring open source and proprietary technologies together.

Many more ideas would be shared including the ones dealing with pooling of traditional knowledge practice for generating extremely affordable solutions for agriculture, human and animal health. Several agricultural, veterinary and human health products have been developed by pooling the best practices available from different communities. Many of these have been licensed to small and medium firms. Honey Bee Network is very keen to join hands with willing partners around the world who are not hesitant in mobilizing the potential of creative, compassionate and collaborative knowledge holders. A significant initiative has already been taken in China, Malaysia and several other countries. The tail has already started wagging the dog by harnessing the fortune at the tip of the iceberg. Obviously, knowledge rich, economically poor people are not at the bottom of all pyramids. They are certainly not at the bottom of innovation, ethical and institutional pyramids. Hence, the focus on the tip of the innovation iceberg.