

Towards an inclusive innovation model for sustainable development¹

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Most corporations realise the need for making their teams more innovative and creative for achieving competitive advantage. Innovations are sought from users, staff and of course R&D experts within and outside the company or public organisation. The role of workers in generating innovations has remained less well understood. In situations of resource abundance, innovations that stress frugality seldom emerge. The signatures of sustainability can only be noticed in conditions where the criteria for evaluating utility of an idea include contribution of a product or service towards environmental sustainability. The transformation in the innovation model is required because the existing model stresses far too much the utility of the product or service for the people who can afford the same. While many companies try to deepen the market and reach the unreached, very few consider socio-economically disadvantaged people as potential supplier of innovative solutions. If such people cannot be clients of the products and services, they are sought to be reached, sometimes through the window of corporate social responsibility (CSR). I think this needs rethinking. If there is a scope for learning conceptual or empirical lessons from socially disadvantaged and generally excluded people, then they need not be reached through CSR but through R&D partnerships. Absurd as it may seem to few, my argument rests on the ability of economically disadvantaged people to trigger frugal, creative and recombinable innovations that can stimulate imagination of product and service designers. Therefore, the model that I talk about is 'sink' to 'source'. Such people are not 'sink' of our advice, or clients of CSR, but given a chance, they can be a provider of solutions that may need further value addition.

How do we conceptualise inclusive development process: At what stages exclusion can take place and how.

If we use the transaction costs framework, we can recognise at least two kinds of costs, *ex-ante* and *ex-post*. The *ex-ante* transaction costs include the cost of searching information, finding suppliers, negotiating a contract and drawing up contract. The *ex-post* transaction costs include and monitoring and enforcement, in other words, compliance of the contract, side payments, conflict resolution costs and if it does not work out, the cost of redrawing the contract. In the context of inclusive innovation model, we have to find out ways by which both these costs can be reduced so that barriers to entry and exit can go down and innovation partnerships can emerge between formal and informal sectors.

Honey Bee Network provides not only a justification but also an operational framework for such a partnership to emerge.

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Conditions for inclusion:

Inclusive or harmonious development is recognised as one of the most important goals of socio economic development in most of the developing countries in particular, India, China, Brazil and South Africa. Inclusion can take place by treating economically poor and disadvantaged people as (a) consumer of public policy of assistance and aid for basic needs, or (b) consumer of products at low cost made by large corporations [à la Prahalad] or state or other enterprises. Inclusion can also take place by building their capacity to produce what they already know and do; or enable them to convert their innovations and outstanding traditional knowledge either as such or by blending /bundling it with knowledge of others, into products marketed by them or other enterprises. In addition, linkage with modern institutions of R&D to receive technologies or products developed by the institutions or to add value to their knowledge, innovation or practices for developing value added products for eventual diffusion through commercial or non-commercial channels can also help inclusion.

Honey Bee Network has mobilised thousands of grassroots green innovations and traditional knowledge examples from all over India and different parts of the world. Some of them provide useful heuristics for innovations in totally unrelated sectors. Let me illustrate.

Yusuf developed a groundnut digger in Rajasthan. This farm machinery works on the principle of lifting the pods mixed with the soil, stirring a sieve or a wire mesh and collecting the pods and leaving the soil on the ground. Another entrepreneur from down south read about it and thought of a creative application. He wanted to use the groundnut digger for sea beach cleaning. The problems were similar but creative leap of imagination took place when a potential user transformed the context of the solution from one sector to another.

Late Mr.Savalya, a very creative small scale entrepreneur tried to improve the thermal efficiency of a cooking plate made conventionally of iron by replacing it with an aluminium hot plate having grooves or ridges on the bottom side. Studies at Indian Institute of Petroleum, Dehradun and University Department of Chemical Technology, Mumbai University demonstrated the gain of about 1.05 per cent in the thermal efficiency because of the ridges. We are all aware about the heat tubes used in industrial boilers. If only the surface of these tubes could be redesigned to have ridges all around, the thermal efficient can go up and at least one per cent energy can be saved. A traditional farmer in one part of Gujarat used a leaf and an insect, crushed together to repel the pest. Chemistry of such materials combined together has not been reported. Cell phones are used for communication around the world. But, applications of these phones as switching device attached to any appliance or tube well in the farm, were developed by a school dropout, young boy, viz., Prem Singh. No big company gave such a choice to the consumers. One could switch on the microwave, geezer or any other such device while keeping from the office. Lot of comfort can be added to life.

None of these innovations emerged in a high tech large lab. It does not mean that we don't need high tech labs. But, it does imply that outstanding innovations can emerge at grassroots level. Outstanding work by Neil Gershenfeld at MIT Media Lab has developed Fab Lab in downtown Boston. He has demonstrated how access to basic tools of fabrication can trigger innovations among some of the most disadvantaged black people. Inclusion through innovation thus seems a very viable enterprise.

Summing up:

Can corporations engage with creative people at the grassroots? The uncertainty about outcomes can become a useful resource for transformation of opportunities. I have not talked about the benefits that may flow towards the innovators through such partnerships, but I want to stress again that corporates would benefit for more. Perhaps, in search for innovations we have restrained ourselves for a long time through assumptions that, I submit, were borne by a patronising attitude. The time has come to go beyond the boundaries of the organisation and look for creative but economically disadvantaged people. And learn from them the sustainable solutions. The 'sink' has to become 'source' and poor have to become providers.