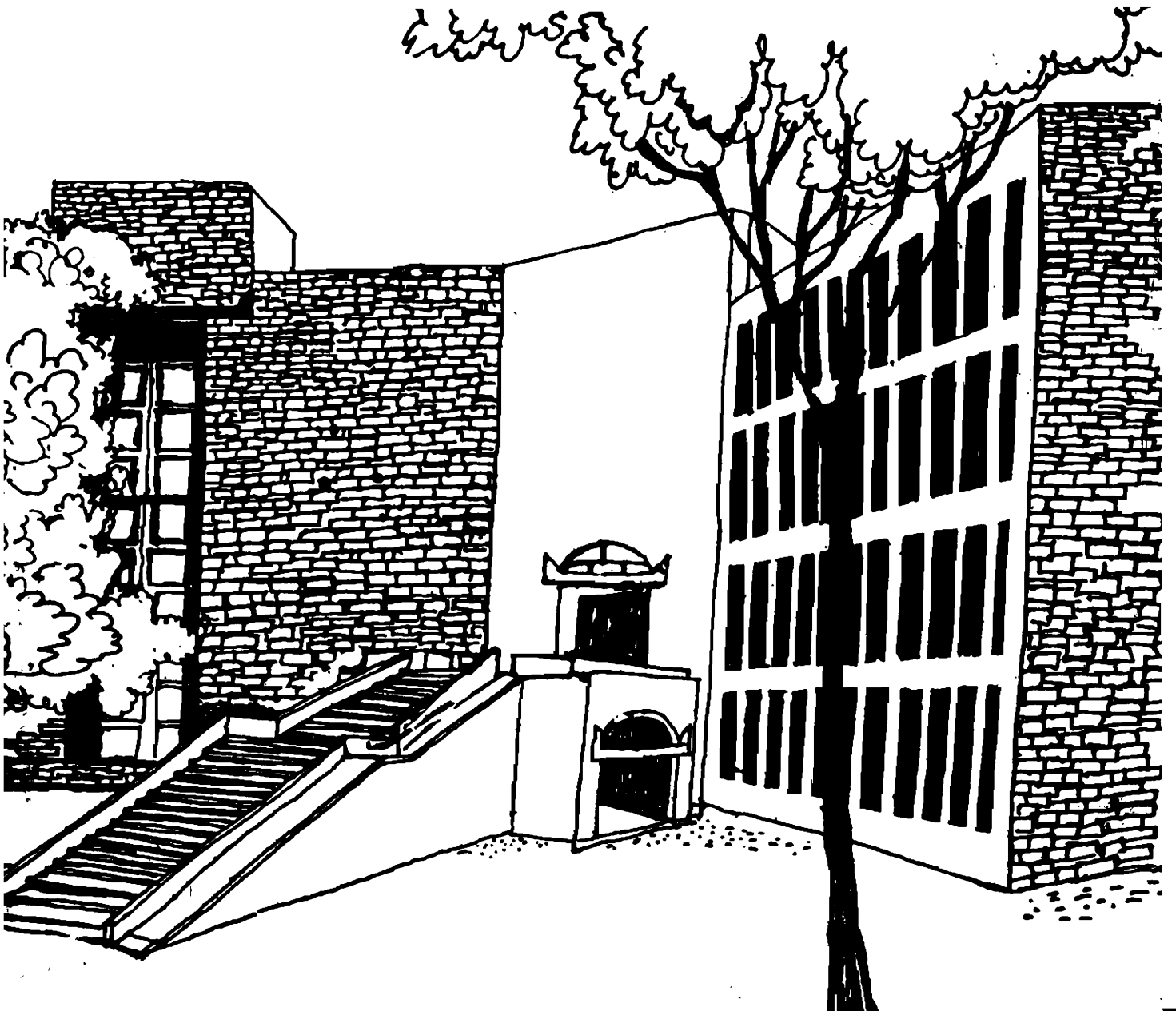




# Working Paper



**BUILDING UPON GRASSROOTS INNOVATIONS:  
ARTICULATING SOCIAL AND ETHICAL CAPITAL**

**By**

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## **Building upon Grassroots Innovations: Articulating Social and Ethical Capital**

Anil K Gupta, Riya Sinha, Dileep Koradia, T N Prakash, and P Vivekanandan  
and other members of Honey Bee Network

The healthy growth of democracy depends upon the emergence of decentralized, dispersed, polycentric spurs of social, ecological and economic entrepreneurship. Networking among these seemingly disparate cross currents some times gives enough momentum to the civil society initiatives to transform the social and cultural values of the society. There is always networking taking place among stronger economic and cultural forces, notwithstanding the nature of state. But some times, this transformation also takes place through subtle networking among the grassroots deviants, innovators, and other marginal but creative forces in society. Gerlach and Palmer (1981) called these forces as SPIN (segmented, polycentric, integrated networks) while I tend to view these as SPLICE (segmented, polycentric, loosely integrated and coordinated entities). It is these SPLICES that need attention today since these have the potential to take the society by surprise when their real power manifests, if it does. It is true that due to loose coordination, many times these forces remain on the margin and thus their potential does not get realized for a long time.

I want to take the case of Honey Bee network that has helped provide a sort of loose platform to converge creative, but uncoordinated individuals across not only Indian states having varying cultural, language and social ethos but also in 75 other countries around the world. What it is trying to do in a rather quiet manner may transform the way the resources in which poor people are rich are used in future. These resources are their knowledge, innovations and sustainable practices.

I first argue that classical concept of social capital does not distinguish between the trust in society created for social good versus social 'bad'. For instance, the trust among members of mafia and other-socially undesirable networks does not constitute social capital. I am also trying to distinguish that part of social trust which is guided by higher ethical values which may not have become social norms as yet. This is being distinguished as ethical capital. Finally, I conclude that Honey Bee Network has tried to articulate the social and ethical capital of the society at the grassroots.

## **Building upon Grassroots Innovations: Articulating Social and Ethical Capital<sup>1</sup>**

Anil K Gupta<sup>2</sup>, Riya Sinha, Dileep Koradia, T N Prakash, and P Vivekanandan  
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The Honey Bee Network evolved twelve years ago in response to a personal crisis. While I had grown in my career, received awards<sup>4</sup>, recognition and remuneration for writing about knowledge of innovators and other knowledge experts at grassroots, very little of this gain had actually been shared with the providers of knowledge in concrete terms. Much of my work was in English language till that time. I had tried to share the findings of my research with people; it had not been institutionalized in local languages. Likewise, I had tried to acknowledge the knowledge providers; they still had remained broadly speaking, anonymous. It was obvious that my conduct was not very different from the conduct of other exploiters in society. They exploited in land, labour or capital

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<sup>1</sup> Paper invited for presentation at the World Social Forum Workshop in Brazil during January 25-30, 2001. The paper is written in the first form as if by the first author to make the narrative more interesting, though all other authors have contributed the insights.

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<sup>3</sup> Gerlach, L.P and Palmer, G.B., 1981, "Adaption through Evolving Interdependence" in Hand Book of Organizational Design, Nystrom & Starbuck. Oxford University Press, 324-380

<sup>4</sup> The Honey Bee network has also received many awards and recognition. Apart from Pew Conservation Scholar award to Prof Gupta in 1993, the Far Eastern Economic Review chose SRISTI and Honey bee network for Asian Innovation Gold Award in 2000 9 Oct 26, 2000).

markets. I exploited the poor in knowledge market. It is at this stage a realization dawned that something had to be done to overcome this ethical dilemma. The Honey Bee as a metaphor came to rescue one day. Honey Bee does what we, intellectuals, don't do. It pollinates the flowers and takes away the nectar of flowers without impoverishing them. The challenge was, to define the terms of discourse with the people in which they will not complain when we document their knowledge, they will have the opportunity to learn from each other through local language translations, they will not be anonymous and they will get a share in any wealth that we may accumulate through value addition or otherwise. Honey Bee Network has brought lots of volunteers together who share this philosophy partly or completely and who want to link up with an immense source of energy and inspiration available with the grassroots innovators<sup>4</sup>.

The asymmetry in relative weight which contemporary society places on this resource of grassroots innovations and informal knowledge vis-à-vis formal knowledge and technologies in devising developmental options almost always is skewed in favour of formal science, technology and other linked knowledge systems.

I will present some evidence of this bias and also share the lessons of Honey Bee Network.

a) poverty because of generosity, and consequent knowledge erosion

Unethical exploitation of the local knowledge continuing for centuries leading to capital accumulation in the formal sector without any reciprocity, can not continue for long. Since many of the grassroots innovators conserve nature particularly biodiversity despite remaining poor themselves, share their knowledge with outsiders generously and do not assert their rights, an anomaly has emerged. The youth in the same societies do not want to emulate in the footsteps of their elders. They do not want to be penalized because of superior ethics of their elders who shared their knowledge and remained poor. If some thing was given, it was accepted but a payment for services was not demanded. There are several consequences. One, the erosion of knowledge is taking place at a very rapid rate, the building block of healing and herbal tradition are getting lost. Many plants are becoming weeds. Just as one cannot locate a book in a library if the catalogue is lost or misplaced, likewise if the knowledge about the plants, their place in nature and uses is lost, one cannot accord them the value they may deserve. There are several other forces accentuating the knowledge erosion such as loosening links between grand parent and grand children generation. But the crucial issue is the loss of respect for this rich source of traditional knowledge. It is taking place precisely because younger generation, exposed as it is to media, and every day news of upward mobility of some ordinary people, does not perhaps want to remain poor because of their superior ethics.

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<sup>4</sup> The Honey bee network was founded with the help of Prof Vijay Sherry Chand, Jyoti Capoor, and many other friends. Later Kirit Patel joined and made an immense contribution. Kapil Shah, Rakesh Basant, Amrut Bhai Agrawat, Chiman Parmar, Praveen, Mahesh Parmar, Hema Patel, Shailesh Shukla, T N Prakash, P Vivekanandan., Sudhirender Sharma, and many others have contributed to the growth of Honey Bee network.

## b. Articulation of social versus ethical capital

The question then arises, how do we harness this ethical capital for social transformation? I differentiate ethical capital from social capital because trust and goodwill exists among members of mafia also. We cannot obviously interpret the trust among various segments and networks in society as an unmitigated good. Trust is very valuable when it is also mediated by desirable social purpose and helps in reducing transaction costs of disadvantaged. If it increases the transaction costs of the poor because the well off forces in a social situation have tremendous trust among themselves (Such that nothing would disturb their privileges and resource wasting life styles , no matter what), how could such trust be considered social capital. In such a case the trust among the social networks that do not necessarily contribute to the creation of common good cannot be called as social capital. The debate on the subject has included this divergence but the resolution has eluded so far. My contention is that trust accompanied with reciprocities in a social network bound by pursuit of a common good in the larger social interest does constitute social capital. However, when this good is pursued through ethical means and for non-sectarian interests, one could argue that it constitutes ethical capital. There are many other sources of ethical capital such as the norms of ecological ethics, social and professional ethics, and eventually the individual ethics which permeates all kinds of organizations whether formal or informal and political or public or private or civil society organizations.

Honey Bee Network is an attempt to articulate ethical capital of our society, guided as it is, by the spirit of innovation, sharing and networking for generating eco-compatible technological and institutional solutions for natural resource management problems.

## c. Ecological ethics

There are several ways in which ecological ethics has been articulated in the Honey Bee Network constituting ethical capital. Our first encounter with this phenomenon took place seven years ago when we were making a small film on grassroots innovations and outstanding traditional knowledge with the help of Indian Space Research Organization. The photographer and the director of the film, Jayantibhai had accompanied us to a village in north Gujarat to meet a herbal healer namely, Karimbhai. He was extremely poor economically but was very rich in his knowledge and ethical values. When Jayantibhai plucked a particular plant on the road side growing abundantly and asked Karim Bhai to hold it in his hand facing the camera, Karimbhai suddenly became upset. He asked as to why was this plant plucked when there was no immediate need for using it. He could have held this standing plant in his hand. We realized importance of the notion that even a road side plant (which was not endangered or scarce) should not have been plucked unless there was a need for it. This was the value unknown to us till that time. Likewise, we have had many examples of ethical capital manifesting in our network. In drought prone regions, a large number of villages have institutions to collect greens from every household to feed the birds. Despite the fact that birds attack the crops and cause loss, I have never come across farmers killing the birds by poisonous baits or shooting. On the contrary they would rather sit on a raised platform under the scorching

sun and scare the birds to save their crops. Variety of birds scaring devices have been developed by the farmers but the taboo on killing birds is widely prevalent. Occasionally, one does come across a single dead bird hanging on a pole to scare the other birds but killing the birds in general does not happen, though there are other tribal communities which do kill the birds and eat them.

There are fishing communities which have common property institutions to ensure that nobody would use a gillnet of mesh size smaller than four inches. This is done to ensure that small sized fishes don't get caught. All these examples indicate that institutional innovations help in articulating ethical values and accumulating ethical capital in societies trying to live in harmony with nature. It is obvious that this capital base is narrow as evident by the extraordinary serious situation with regard to environmental externalities and many irreversible damage caused by human actions. So long as there remains a hope through continuing living wisdom, one is challenged to explore opportunities for expanding such capital base.

d. Technological innovations to overcome inertia and improve efficiency at grassroots

Honey Bee Network has documented more than ten thousand innovations either of contemporary origin or based on outstanding traditional knowledge primarily from India but also from all parts of the world. Many of these innovations are extremely simple and can improve efficiency of farm workers, women, small farmers, artisans and others a great deal. However, the diffusions of these innovations across language and regional boundaries has been extremely slow despite the fact that Honey Bee newsletter has been coming out in six languages for a decade or more. There are many barriers to the evolution and diffusion of these innovations. (i) Lot of people have learnt to adapt and adjust to a constraint rather than transcend it. In case of women based technological problems, this constraint has been a consequence of cultural institutions, which prevented them from acquiring black smithy or carpentry tools. Women are very creative in coping with the constraints and sometimes transcending them but relatively speaking, except in health, child care and animal care, the innovations by the men have outnumbered the ones by women in our limited sample. We have to look deeper to understand the dynamics of such engendering of particular kind of creative capacities. (ii) there is a contempt in society for someone who breaks out of the mold. Despite upsurge of entrepreneurial spirit in different parts of the country in recent times, by and large a social deviant who is trying to do something new is often a butt of ridicule. Only those innovators who can withstand sometimes the indifference and occasionally the hostility of their peers can succeed in developing lasting solutions. (iii) The lack of social networking among the innovators has prevented them from faster collaborative learning or from provision of moral support in the times of crisis or failure (iv) lack of access to formal scientific institutions accompanied by lack of general responsiveness on the part of scientists has also prevented grassroots innovators in optimizing their solutions and in some cases even pursuing their innovations to logical conclusion. (v) the formal scientific institutions at national and international level have failed to build upon grassroots innovations thereby weakening the momentum for even articulating the innovations. (vi) the educational



systems at different level ranging from primary to higher education have ignored this subject and have almost never included profiles of grassroots innovators in the curriculum or pedagogy. The result is that young people of ten grow with assumption that technological solutions to their problems would come from outside and generally from west and rather than evolving from within. The defeatist mentality and pervasive cynicism add to the problem. (vii) the lack of micro venture capital prevents transition of small innovations into enterprises. The incentives therefore, remain limited for those who innovate. While micro finance facilities are now available around the world, micro venture finance for small innovations has almost been totally absent. This institutional gap shows the lack of appreciation by the global as well as national public policy institutions of the potential that grassroots innovations have for generating employment and overcoming poverty. (ix) the lack of intellectual property protection through specific instruments and legal frameworks designed for helping small innovators may also inhibit the articulation or sharing of innovations.

Despite all these reasons, innovations have indeed been scouted, documented and disseminated by Honey Bee Network and SRISTI ( [www.sristi.org](http://www.sristi.org) ) over last twelve years. Innovations such as a modified pulley to draw water, a gum scrapper to enable women to gum from thorny bushes or tress, or large number of small machineries, herbal pesticides, veterinary medicines, new plant varieties, agronomic practices or other products have been developed by the unsung heroes of our society without any outside help ([www.sristi.org](http://www.sristi.org)).

e) Linking innovation, investment and enterprise: Micro venture promotion fund

As a follow up of first International Conference on Creativity and Innovations at Grassroots held in January 1997 at IIMA, a regional fund was created in collaboration with Gujarat state government to convert innovations from Honey Bee database into enterprises. GIAN (Gujarat Grassroots Innovation Augmentation Network, [www.gian.org](http://www.gian.org) ) was set up in 1997 to link innovations, investment and enterprise. The idea is that innovators sometime may not like to become entrepreneurs themselves. And even if they want to become entrepreneurs they may not have access to risk capital, technical know-how or design input for making their innovations into a product, which can be commercialized or diffused through non-commercial channels. GIAN has filed patents, on behalf of grassroots innovators, incubated several innovations into products, and licensed some of the innovations to entrepreneurs on district wide basis with the license fee going to the innovator (even when patents for the licensed innovation have only been filed and not granted). Why are there not many GIANS within the country or around the world? The possible reason could be that the development planners and international aid and investment agencies have failed to see the potential of knowledge intensive approach to development. It is useful to summarize some of the lessons of incubation process. Many times, the innovators don't prove to be good entrepreneurs. They seldom realize that by not making any two machines or products alike, they generate a doubt in the minds of the customers that some people get more features than others. Likewise, there are innovators who don't think they can learn very much from other experts particularly from formal sector. It is a different matter that many times, the

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experts in the formal sector also fail to see the merit of the local innovations. The lack of incubators, labs and other science and technology institutions dedicated to adding value to local innovations make the tasks of these innovators even more difficult. The lack of venture promotion capital and R&D funds constrain the pace and scale of technology upgradation of the innovation. The lack of mentors affects the moral of budding entrepreneurs who often need a shoulder to cry on. The lack of certification facilities at concessional rates for the products based on local innovations delays and sometimes inhibits the diffusion of innovation. Finally, the lack of media support prevents the horizontal networking among the innovators and generation of the demand for their products.

While Honey Bee Network is experimenting with the use of information technology through multi media multi language databases accessible through touch screen kiosks, we are conscious of the limitation information technology has at the current level of infrastructure in making major impact on society.

f) **National and International Register for Innovations and a Clearinghouse for Horizontal Networking and Innovation Market**

The transaction costs for innovators around the world to learn from each other and thereby improve the livelihood options, are very high. The popular media and other channels of communication do not pay attention to this source of creativity. Unless we have a clearinghouse in multiple languages and easily accessible in remote areas through internet as well as radio, it will be very difficult to create horizontal networks of grassroots innovators. A step in this direction was taken in India recently. National Innovation Foundation (NIF, [WWW.nifindia.org](http://WWW.nifindia.org)) was set up in March 2000 with a corpus of US 5 million dollar by Indian Department of Science and Technology at Ahmedabad essentially to scale up the Honey Bee model all over the country. NIF will develop a national register of inventions and innovations, link innovation, investment and enterprise, connect excellence in formal and informal sciences, set up incubators and help in changing the mindset of the society to ensure respect, recognition and reward for the grassroots innovators. SRISTI has moved a proposal for Global Innovation Foundation primarily to create multi language multi level clearinghouses for networking innovators. However, one of the problems that remain is the protection of intellectual property rights. It will be impossible for traditional knowledge experts and contemporary innovators to pursue standard patent protection where the average cost is about 15 – 20,000 dollars per international patent. The cost of validating the patent in each country every year is extra. There is a provision in the TRIPs as a part of WTO that an international negotiation be initiated to develop a global registry of wines. Obviously, it was done to persuade France to the sign the GATT treaty. There is no obvious reason as to why international registry should be restricted only to wines. It should be considered possible to develop track two system of intellectual property protection. Under this, any inventor from any part of the world should be able to register one's innovation or traditional knowledge and get at least 8 to 10 years protection with 3 to 5 claims at a very nominal cost to be paid in national currency at the national IP office. This registry will provide incentive to the millions of knowledge rich, economically poor people to disclose

their innovations and at the same time explore the possibility that investor or entrepreneur from one part of the world will join hands with them to set up an enterprise in their own country or in another country. Thus, the grassroots creativity can harness global capital and entrepreneurial support for decentralized development. This is the only way I can imagine forces of globalisation can be mobilized in support of autonomous development at grassroots level.

Agenda for future change:

The democratic development of multiple futures in different parts of the world hinges considerably on the possibility of polycentric spurs of innovations. Unless hundred flowers bloom and we create legitimacy for diversity and autonomy for each flower to blossom, there is no future for democratic development with human dignity. If such is the case, why is it so rare to find Honey Bee kind of networks around the world? Why should not every country be concerned with building national registers of inventions and innovations so that livelihood support systems at the cutting edge of society become efficient, competitive and effective. Forces of globalization tend to homogenize the human taste and preferences, constricting in the process the space for articulating ethical capital, particularly from the grassroots green innovators. The major institutional gaps in the developmental thinking and action around the world prove the sterility of conventional wisdom in overcoming the massive problem of poverty, unemployment, iniquity and discrimination. It is not my contention that grassroots innovations whether technological, institutional or educational will solve all the problems. But I do hope that it can ease the pain in the short run and generate or reinforce the self-esteem of lot of knowledge rich economically poor people around the world. We are on the threshold of a new paradigm.

The development process can become sustainable only when it has an intrinsic source of revitalization, self-renewal and self-criticism. Most of the innovators recognize the need for constant learning and incremental improvements in technologies and institutions. I have argued (Gupta, 1992) that technology is like 'words' and institutions are like 'grammar'. Innovations in both dimensions enrich the lexicon of development.

Summing up:

I have argued that democratic development requires not just the social capital but also the ethical capital for energizing SPLICE. To ensure that SPLICE works in a sustainable manner, one needs an injection of innovations. The national and international institutions particularly of science and technology, cannot find solutions for highly location specific problems faced by the people in a given region. Occasionally, an innovation emerges to solve such a problem. These innovations may be based on traditional knowledge and resources or emanate from an entirely contemporary context. Incentives for these innovations, accountability towards these innovators and opportunities for these individual or collective innovations to generate more efficient and competitive livelihood support measures are necessary. This is possible only when educational, socio-cultural and institutional agenda of global institutions changes and

accommodates the expectations of grassroots innovators as articulated by Honey Bee network and other such networks. Several small, simultaneous and sequential changes in different sub-systems of society will be needed to institutionalize the Honey Bee philosophy. No innovator whether individual or communities should remain anonymous in this discourse. We should ensure that people about whom we are taking should have access to the products of our enquiry in their language and with proper attribution and citation of their contribution. We also have to ensure that if we, as outsiders, whether corporations, other organizations or individuals gain some pecuniary advantage from the documentation of value addition in innovations, we must share a fair part of this gain with the knowledge provider. Only then, can we call this discourse ethically valid and democratically sound.

It is possible that many more steps will be needed to incorporate the innovation value chain in the very fabric of society. In this paper, we have outlined the steps that may help make a mosaic or a quilt. Transformation of a quilt into a strong fabric would require each patch of an idea or innovation to be assimilated into an overall framework of development. The generosity of innovators and traditional knowledge experts has been taxed for far too long. It is time for a change.

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