

## Agricultural Extension in South Asia

### GRASSROOTS INNOVATION: MINDS ON THE MARGIN ARE NOT MARGINAL MINDS

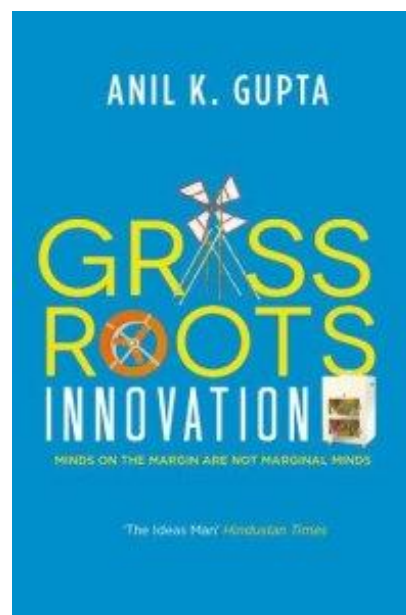
Dr Anil K Gupta (2016)  
Random House India,  
288 pages



Professor Anil K Gupta championed the cause of promoting indigenous knowledge and practices in agricultural development and advancement in society. Very few like him have succeeded in promoting these practices as well as recognizing and rewarding the rural inventors. It is in the realm of anybody's imagination the difficulties he experienced during his journey of enabling the remote rural innovators to show case their sustainable innovations in Rashtrapati Bhavan and some of them had even the rare privilege of staying in the Presidents' palace.

In the first chapter 'Seeing beyond what is visible' Prof. Gupta narrates several agricultural practices which the rural people evolved over a period of time. These include practices which increase production or reduce risk and techniques to estimate crop yields, manage pests etc. Based on his vast experience of travelling to several villages (spread over more than 16 states), interacting with several people and discovering thousands of useful innovations, he makes valid observations on the agricultural extension system. These are as follows:

- The agricultural extension systems have seldom tried to learn from people first before sharing new knowledge or practices,
- They may not always acknowledge the knowledge provider even if they do make use of some local practices,
- They may also not prioritize sustainable practices over less sustainable ones,
- Very rarely, extension professionals and agricultural scientists realise that the rural people had the capacity not only to innovate but also to provide effective solutions to problems that rural communities face, and
- Differences exist in what the scientists are pursuing and what the farmers need – this is the main reason for the low adoption of many scientific innovations.

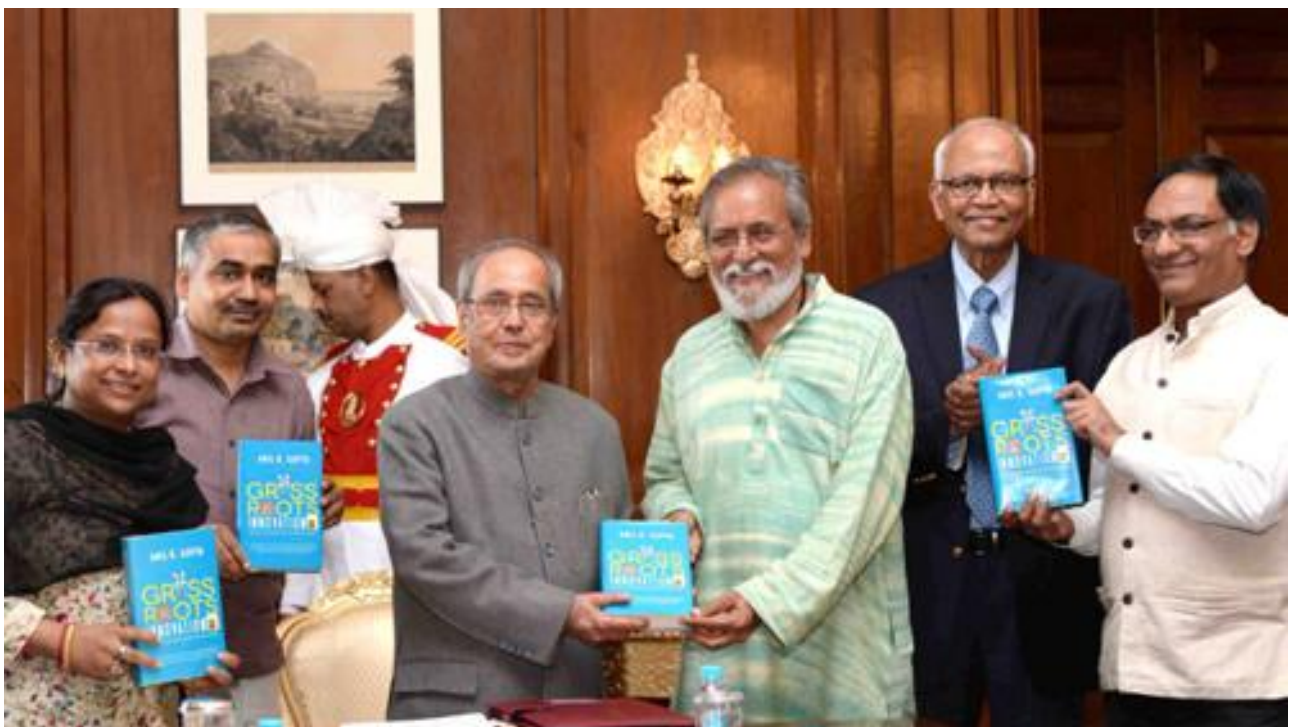


The author comes out with robust empirical evidence to prove that innovations need not necessarily come from researchers alone and the farmers in remote villages can also innovate. The challenge in agricultural development is to improve the productivity by using knowledge and information more than material inputs. However, unfortunately public and private institutions have been focusing more on distributing inputs (most often subsidised) which is considered as an end in itself rather than means to increase production. He emphasises the need to spend time with people in finding out what they are doing, how and why they are doing to understand their socio-cultural dynamics. In the absence of this clarity, one can never help the farmers in improving their socio-economic status which is the fundamental objective of extension education.

The next chapter is on 'Evolution of the Honey Bee Network', which Dr Gupta established primarily to recognise the creativity of common people. The Honeybee Newsletter, now being published in few local languages is serving as a useful platform for discovering and documenting grassroots innovations. To provide backstopping support to this network, SRISTI (Society for Research and Initiatives for Sustainable Technologies and Institutions) was set up. It focused on four areas of creativity namely Education, Technology, Institutions and Culture. Similarly, Grassroots Innovation Augmentation Network (GIAN) was also established which Dr Gupta considers as an incubator linking innovation, investment and enterprise.

Dr Gupta was instrumental in establishing the National Innovation Foundation (NIF) at Indian Institute of Management, Ahmedabad (IIMA) in 1997, with Dr R A Mashelkar (Former Director General, Council for Industrial and Scientific Research, Government of India) as its founder Chairman. The NIF is successful in recognizing more than 1400 rural innovations and outstanding traditional knowledge practices which reflects upon the extent of availability of farmers' wisdom in the country.

Dr Gupta profusely acknowledges the support rendered to NIF by several people including the former Presidents of India, Dr APJ Abdul Kalam, Ms Pratibha Singh Devi Patil and the current President of India, Shri Pranab Mukherji. The efforts of Dr Gupta in achieving the objective of giving due respect and recognition to the grassroots innovators through Presidential awards are laudable. He has gone one step further in protecting the Rights of Innovators (IPR) by obtaining patents for 730 technologies and keeping more than 10, 000 in the public domain. This speaks volumes on the grassroots innovation treasure that he could successfully create.



The President of India, Shri Pranab Mukherjee receiving a copy of the book 'Grassroots Innovation' from Prof. Anil K. Gupta on 2 August 2016

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In the next chapter, Dr Gupta demonstrates with his *Shodhyatras* (a walking class), how important field visits are for extension professionals and students in understanding the socio-economic situations of rural communities. *Shodhyatras* have been successfully employed since 1998 in moving with various communities, sharing their experiences, orienting students and volunteers to learn from the grass root innovators. The groups are so motivated that they not only participate voluntarily (voluntary participation and democratic approach, one of the important principle of extension) but also bear their travel and other

expenses. He could introduce a new course on *Shodhyatra* in IIMA, which the author has been teaching to the management students.

Some intellectuals are born ahead of their time as it happened in the case of Dr Y P Singh, his teacher of Agricultural Extension at Haryana Agricultural University, (now CCSHAU) Hisar. Dr Gupta in this book narrates how Dr Singh tried to forge the formal and informal science by assigning topics on ethno veterinary medicine to two post graduate students. This was a pioneering work in the early 1960s in a quest to document and validate the useful practices followed by the livestock owners and take them back to field (land to lab and lab to land). He had a tough time defending the thesis as the research was considered not in the domain of agricultural extension and the then focus was on 'lab to land' (Transfer of Technology) and not on 'land to lab'. It took two decades for Dr Singh to restart his research on farmers' wisdom when he joined as Professor of Extension at the Indian Agricultural Research Institute (IARI), New Delhi.



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Dr Anil Gupta also mentions about the necessity of scientific validation of innovations through on farm research (mandate of KVKs). Based on his vast experience of experimenting with several indigenous practices, he realised that for the farmers 'what mattered more is whether the practice worked rather than the reasoning behind it'. Many a time the farmers' reasoning is questioned and more often than not the useful practices are rejected. Hence, he reiterates the need for change in our scientific approach which will help in identification and validation of several useful practices in the field.

There is a brief discussion on the inertia with which we suffer at different levels in society: be it precautions to be taken while spraying the pesticides, drudgery of women in transplanting paddy, plucking and collecting buds in tea gardens etc. He suggests several measures to overcome this inertia. The innovative and classic learning method of *Shodhyatras* promoted by Dr Gupta is worth emulating by extension professionals. Dr Gupta and his team could identify several innovations which probably would not have seen the light without their intervention. He proved beyond doubt that the poor don't just have legs, a mouth and hands, but also a head to think and heart to feel emotions.

Interestingly, Dr Gupta negated the Maslow's Need hierarchy theory on two counts: Order of needs (A person can come out with outstanding creative work and thus accomplish the top order of self-actualization of needs without satisfying the lower order physiological and social needs) and Hierarchy of needs (most of the needs can be pursued simultaneously without following the order).

In the chapter on 'Listening to the Minds on the Margin: Sound of a Bird', the author has taken MNREGA (Mahatma Gandhi Rural Employment Guarantee Act), as an example where public policy systematically marginalizes the people who otherwise may have specialised skills, knowledge and perspectives. He puts forth a valid argument that MNREGA is being implemented without giving any due consideration for the skills some of the people possess, thereby killing their skills. To my knowledge, there are no studies to find out the number of skilled persons employed or equated with other people for performing menial works under this 100 days Flagship programme of GOI, as the focus of our research is on impact and constraints in implementing MNREGA.

He rightly questions our educational system which focused more on rote rather than creating a context to develop creativity among children. He emphasised the need to discuss examples of both successful and failed experiments as a pedagogic tool for arousing the curiosity among students and encourage them to conduct their own experiments. He explained an inverted model of Innovations which implies that 'Children

invent, Engineers fabricate and Companies commercialize'. With several real life stories he showed that the children are extremely creative and can provide very good solutions, provided the teachers have the ability to recognise the creativity among students. These solutions look simple and make the reading of this book very interesting.

There is a chapter on 'Fulcrum of Frugality: a circular economy' in which Dr Gupta delves at length on dimensions of frugality which have a bearing on the environment, society and institutions. These dimensions include for example a) material, b) multi-functionality, c) repurposing and rejuvenation, d) flexibility/ location specific adaptability, and e) availability, affordability and accessibility. He added sustainability of the innovation to the characteristics of innovations suggested by Rogers. Some innovations like a one rupee sachet of shampoo is frugal and affordable but its deleterious effects on society and costs involved in collection of used sachets are enormous. The innovations must not only be economically viable but also socially beneficial.

He advocates the model 'cradle to cradle' which assumes circularity to maintain the integrity of our ecosystem instead of 'cradle to grave' which assumes wastes (reduced, reused and/or recycled). He criticises our usual mind set of resorting to *jugaad* solutions which he considers as an indication of deficiencies in design, manufacture, supply chain and user driven redesign processes. The extension professionals can benefit a lot by taking these aspects into consideration while selecting innovations for wider application.

In the seventh chapter the author suggests that the interplay of natural, social, ethical and intellectual capital provides unique opportunities for companies and other formal organizations to shape their agenda under corporate social responsibility (CSR) and other platforms for engagement with the informal sector or other social segments of development. At the end he gives a list of important lessons for the learners who wish to promote agricultural and rural development. To mention a few: Looking for ideas; Learning new Heuristics and not just solutions; Building bridges between different knowledge systems- design, diffuse and derive innovations; Overcoming inertia etc.

This book makes an interesting read and sustains the interest of readers with real life examples and beautiful colour photographs. I wish that the students, faculty of agricultural extension discipline and all those involved in rural development must read this book on grassroots innovation.

**Dr SVN Rao**



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