TOPIC: THE WAY FORWARD FOR SMALL HOLDER FARMERS

I am Principal Scientist (Microbiology), working with ICRISAT for the past about 32 years. For the past ten years, focus of my research is small-holder farmer. It involves strategies/methods for on-farm generation of inputs, use of locally available low-cost and biological options of crop production and protection, and recycling of plant biomass.

About 80% farmers in developing world, including India, have small farm holdings (as per 1991 census of India - 74% farmers in 1991 owned <1.4 to <2.4 ha and properties would have been further divided), But policy makers world-over are spin doctoring that small farm holders are not sustainable and that we need to find alternate livelihoods for them. On the contrary some NGO's and innovative farmers have generated technologies and evidences indicating that carrying capacity of a given land can be enhanced significantly such that a family of five has been claimed to make a living on less than half ha area. This, however, needs inputs of assured water, knowledge, labor etc.

I would like to learn your opinion on **the reasons why condition of small farm holders has been getting worse year after year over the past about 30 years? Consequently, what is the way forward for small holder farmers and what are the implications, particularly for policy-making?**

Based on our research and experiences, we would argue that a country concerned/interested in helping its small-holder farmers needs to take bold steps to nurture its agricultural system. Nine following suggestions should help:

1. Prepare a strategic road map for a farmer-empowering research and development program that fosters agricultural production based on good agricultural practices following the most successful farming systems of each area. Disadvantaged and the rain fed areas should be the first for these development programs.

2. Progressively, reduce all so-called farmer targeted funds given as subsidy in some countries to agro-input producers such as of synthetic fertilizers, bio fertilizers, bio pesticides and synthetic pesticides. At the same time no money should be given directly to farmers as subsidy, because this will perpetuate farmers' problems, as noted in some countries. Instead, funds should be diverted to farmers through the programs for development that harness the intervention, staffed by professionals, to take all the risks and responsibilities, leaving farmers to farm and on farm activities.

3. As an important policy initiative, financial support (direct or indirect) to the input-based crop production and protection system must be reduced step-wise and finally withdrawn. The companies (including those where government is involved) engaged in their production should spend their own resources for promoting the type of agriculture that is based on external inputs, not use the public sector system, as is the practice now, to market the products. Money saved from these programs be spent on new programs aimed at training farmers for on-farm generation of input to meet needs for crop nutrients (eg. generation of plant biomass on farm boundaries) and crop protectants (eg. botanicals)

4. Credits (essentially needed to buy the external inputs) given to farmers in some countries e.g. India for input-based farming are a lure for receivers to use the money elsewhere. In the GAP-based agriculture, inputs can be generated on-farm. Therefore ideally, government should scrap the credit policy for farmers all together. But if continued it should be for enhancing local generation of biological or microbiological inputs and for ensuring food-security locally, such as for buying milk cows and buffaloes or even dry cattle, sheep and goats as they play an important role in natural resource based agriculture focussed on local farming systems.

5. Human Resource Development – whole agricultural research, extension and education system and its linkages with agricultural communities needs a re-look. Agricultural Universities presently having role in agricultural education, research and extension, should have a major focus on (a) GAP as relevant to small-farm holdings, (b) low-cost and locally available natural resources and their recycling to generate farmer-empowering agro-technologies, (c) articulate science to traditional

knowledge of farmers. Basic research is very important, but be concentrated in selected well equipped and adequately-funded labs/institutes.

6. Crop development component is very important. But its focus should be to empower farmers. Eventually the seed should be available to farmers at affordable cost, preferably produced on farm. Rural seed-bank concept has been successfully used at some locations in India and in other countries.

7. Setting-up a mechanism of fullest support to the intervention, e.g., Producer Company (PC) concept. PC as an idea has been in use in various forms by some farmer groups in India and as small and medium enterprises (SME) in some other countries. The intention is that the government facilitates it through funding the infra-structural needs under the existing (modified where needed) company laws. Focus here is to make farmers as stakeholders to the end and participants in their own produce/products.

8. Extension – needs a change in focus from the present input-based to knowledge-based diversification involving local predominant farming system. Presently, the technology delivery system as established in the 1960's in countries such as India, has totally broken down. This be refurbished to link to the concept of PC. Also, the technology of crop production and protection using natural resources is presently practiced largely by some farmers supported by NGOs, agencies and companies promoting organic farming principles and GAP. These be given an important role to scale up these technologies.

9. All government programs aimed at nutritional and social security of vulnerable and captive groups (e.g. schools), should be linked to the PC concept such that the PC could readily sell their products to these groups.

Overall, it seems feasible to grow crops without or minimal purchased inputs in several regions. Crops do need nutrients to grow and protectants to save them from insect-pests and diseases. Most of these can be produced in-situ on-farm. What is needed is an important change to decide in favour of developing agro-technologies that would empower farmers, using inputs produced on farm. Use of several of the crop protection products developed based on traditional knowledge of farmers can be promoted through rural enterprises, the PCs. But acceptance and scaling up of these products and other eco-friendly crop production options is the biggest challenge. This may be addressed better by linking the uptake of these technologies to livelihoods of the farmers. The proposed model is expected to do the job and possibly double their 'Purchasing Power'.

We have contributed some papers addressing the issue of small holder farmers to the Forum site as background papers for the topic:

- Frequently asked questions on "Farmers' Producer Company (PC)" an Institutional PC concept http://km.fao.org/fileadmin/user_upload/fsn/docs/Microsoft%20Word%20-%20FAQ-PC%206Mar2k7.pdf

- Is high yield possible with biological approches? http://km.fao.org/fileadmin/user_upload/fsn/docs/Microsoft%20Word%20-%20high%20yield%20organic%20farm.pdf

- Comparing Conventional and Organic Farming Crop Production Systems: Inputs, Minimal Treatments and Data Needs

http://km.fao.org/fsn/resources/fsn_viewresdet.html?no_cache=1&r=327&nocache=1

- Lessons from Nonchemical Input Treatments Based on Scientific and Traditional Knowledge in a Long-term Experiment http://km.fao.org/fileadmin/user_upload/fsn/docs/Lessons%20learnt%20AAHF2K5.pdf

- A new index to assess soil quality and sustainability of wheat-based cropping systems http://km.fao.org/fileadmin/user_upload/fsn/docs/Kang%20et%20al2k5BiolFertSoils.pdf

- Evaluation of Crop Production Systems Based on Locally Available Biological Inputs

http://km.fao.org/fileadmin/user_upload/fsn/docs/biological%20approach%20chapter35.pdf

Keeping the small farm holder in mind may be the best way to conclude this debate.

With best wishes,

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