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CONCLUSION

CHANGES NEEDED IN EXTENSION PROGRAMMES AND EXTENSION RESEARCH NEEDED TO SUPPORT THESE CHANGES

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Extension programmes

This book tries to help managers of agricultural extension organisations and extension scientists in Asia to decide which changes in the roles of the agricultural extension organisations in their country are desirable and how these changes can be implemented. We can not make recommendations about these changes, because which roles are desirable and possible depends on the local situation, the competencies of the extension staff and the policy goals of the organisations which promote and finance extension. In this chapter we will mention changes which in our opinion should be considered. Therefore we will highlight several of the changes mentioned in previous chapters.

Mancebo mentions in his Ch. 15 four goals of the agricultural development policy in the Philippines: food

security, competitiveness , alleviating poverty among farm families and protection of the environment. Of these goals alleviation of poverty is the most important, but the others require also the attention of the extension organisations. We think that the same goals are important in most Asian countries.

Most poor people live in families of small farmers and farm labourers (IFAD, 2001). Therefore it is a responsibility of the agricultural extension organisations to help to reduce their poverty. An important cause of their poverty is the decrease in the price of agricultural commodities in the world market (FAO, 2002: 12 and World Bank, 2005: 23) and in many local markets.

There are several possible ways to contribute to a reduction of the poverty among these farm families (see World Bank, 2005: 118 - 120). Often this requires finding ways to transfer money from the rich inside and outside the country to poor farmers by enabling these farmers to produces goods and services for which these rich feel a need.

1. *Improving their production techniques*: better control of plant diseases, use of fertilisers and irrigation water, choice of plant varieties, animal nutrition, etc. It has always been a major role of agricultural extension to contribute to these improvements and this should continue. However, we fear that this can not contribute enough to farm income to compensate the results of the further decrease in prices of agricultural products.
2. Part 2 of this book shows that *commercialisation of agriculture* can result in a considerable increase in income of some farm families, but not of all. This requires that these farmers have different

competencies than a subsistence farmer needs, such as:

- choosing high value products from which he can make a profit in the market,
- producing a better quality of these products at lower costs than his competitors inside and outside his country,
- selling these products for a good price; often this can only be done in co-operation with other farmers,
- finding information which is relevant for these tasks and applying this information in the decisions he makes.

It is clear that at present many Asian farmers do not have these competencies to such an extent that they are well able to compete with other farmers. Therefore, an important role of the extension service becomes to educate farmers to increase their managerial, entrepreneurial and decision making capabilities.

- Does the extension staff have the competence needed to provide this kind of education?
- How can they obtain the information needed to make their educational programme relevant for their target group?
- Are they well informed about the rapid changes in the market and in production technologies?

Which organisation is most suitable to develop an education programme on the production and marketing of high value products? Usually government officers have not much experience and training in marketing. In a pluralistic extension system other extension providers may better be able to provide this education.

3. With the present process of globalisation it becomes more and more important to help farmers to be

competitive in the world market. These markets are changing rapidly and also the available technologies are changing. Therefore farmers, extension agents and researchers should adjust the way in which they work at their changing environment. A researcher, who has earned a high status among his colleagues by doing the last 10 years good research on a certain problem, may not like to switch to studying a different problem, but that can be necessary for successful agricultural development.

4. So far a major goal of extension programmes was to help farmers to increase the yields per ha and per animal. However, the potential to *increase labour productivity* is much higher than the potential to increase land productivity (Ch. 1).
5. *Combining agricultural and non-agricultural sources of income* is a strategy which many farmers follow. They may also have a shop, weave cloth, work in the dry season in the city, etc. The market for touristic services is growing rapidly and this offers farmers, who are located in a beautiful area, e.g. in the mountains, income opportunities. Often there are more possibilities to increase their income from non-agricultural production than from agriculture. Therefore, scientists like Ellis (2000) recommend to explore these opportunities, but most extension organisations look only for opportunities inside agriculture. Are special extension programmes needed to teach farmers to earn money also from non-agricultural sources as was reported for Korea in Ch. 2? If so which organisation can conduct these programmes and how can their staff be trained for this new role?'
6. Many *farmers move out of agriculture or train their children for a non-farm job,* because they do not see

an opportunity to make a decent living on their farm. The discussion of labour productivity in Ch. 1 gives indications that some of these farmers may be right, but not all people who have moved out of agriculture are happy that they did. They may live in a difficult situation in an urban slum. There indications that the incidence of HIV/AIDS is relatively high among this group. It is clear that the decision whether or not to move out of agriculture is much more important for the welfare of the family than the decision how much and which fertilisers to give to their cereal crop. For most farmers, however, it is much easier to get advice on fertiliser use than on finding a job outside agriculture. Is that right? If not, who can give this advice and prepare the farm family for a successful live outside their village?

7. A single farmer faces many problems he can not solve, but it may be that they can be solved if he *works together with other farmers in a group*. That makes it possible to exert more power in the market, to have more influence on government policies and on extension and research programmes and to learn from the experiences and ideas of other group members. Some NGOs help farmers to establish these groups and to make them a success, but in most Asian countries farmers' organisations are still weak. Can and should extension organisations help to change this? If yes which organisations and how can they acquire the capability to do this well?

8. Agricultural extension mainly helps individuals to make better decisions. Many important problems, however, can only be solved through *collective decision making*. This is the case with decisions on natural resource management, environmental problems and increasing the power farmers have in the market. Supporting these decisions requires a

different extension approach as is discussed in several chapters.

9. Two key concepts in modern thinking agricultural extension, development and innovation are *partnership and learning*, as is illustrated in several chapters in this book and in the important book by Hall et al. (2004). They show that agricultural innovation does not only require changes at the farm level, but usually in the whole system including the supply of inputs and the marketing and processing of products. It also requires information from many different sources, including researchers in different disciplines and farmers.

Gao and Li show in Ch. 16 that learning from successful farmers is an important source of information for Chinese farmers. It could also be quite important for extension agents, but we are not sure that they make full use of this source in all countries and all extension organisations. Chs 5, 8, 12 and 13 show how extension agents and researchers can learn from them.

One task of extension agents is to facilitate the development of these partnerships and to stimulate that one learns from the experience of all relevant partners. Does this happen always? One of us said once in a lecture for extension scientists in an Asian country: "I see that in your country that coordination between animal and crop production takes place at the level of the farmer and at the level of the Prime Minister, but I do not see it anywhere in between". Everybody laughed, but unfortunately nobody said he was wrong. Our observations and several contributions to this book convinced us that improved partnerships between different actors are one of the most important ways to improve agricultural extension in Asia. Agriculture Man and Ecology (AME) helps NGOs in South India to realise

these kinds of partnerships, but also elsewhere it may be useful to do this also. The Confederation of Indian Farmers' Associations insists that there should be a better coordination between the 21 Ministries dealing with different aspects of agriculture (The Hindu 11-12-2005).

10. A *relationship of trust between farmers and the persons, extension organisations, NGOs and commercial companies which support agricultural development* is quite important for the success of this.

A vegetable seed company may realise that farmers will only buy their seed in the long run, if this increases their income. If the profit from vegetable production with their seed increases with 100 $, because it gives a higher yield, better quality or lower costs of plant protection than the ordinary seed, the company may consider it fair that the farmer gets 90 $ and their company 10 $. So their seed will be much more expensive than the ordinary seed. Some traders will see a possibility to earn money quickly, because farmers can not see the difference between ordinary and high quality seed. So talking about this quality can be profitable. Farmers' associations can use the methodology of consumers unions to expose companies and traders who cheat farmers in this way. This may teach them that it is profitable to be honest.

NGOs are expected to work in the interests of poor farmers, but Hasannullah says in Ch. 7 that instead some NGOs try to increase the income of their leaders, even if this is at the expense of these farmers. It is also possible that NGOs like to serve the farmers' interest, but their staff has an urban background and a social science training and lacks the competence in agriculture to give advice which is profitable.

Commercial farmers should have the competence to choose partners they can trust.

11. Many agricultural extension organisations see as their *main role the transfer of information* from researchers working in government research institutes and universities to farmers. This is not enough because:
    - there are also other valuable sources of information such as researchers in commercial companies or outside the field of agriculture, farmers, consumers, partners in the market and policy makers,
    - there is no guarantee that farmers will use the information that is made available to them. They may also need help in the decision making process in which this information can be used to enhance their capability to make effective use of the available information in this process as is mentioned e.g. by Gao and Li and Avorn Opatpatanakit,
    - many extension agents tell farmers what they should do and how they should do this, but do not discuss with them why they should do this. If they did, they should increase the capability of their farmers to decide what they should do in a given situation. In this way they do not help to increase their managerial ability as much as possible.
12. Not all farmers are the same. They differ in education, in access to resources and markets and in their need to support from extension. That is a reason to provide this *support through a pluralistic extension system*. There is no reason why taxpayers should pay for the kind of agricultural extension for which input supply or marketing companies are

willing to pay and are well able to provide or for extension which specialised commercial farmers are willing to finance. However, much of the extension which poor farm families need can not be financed in this way. In order to alleviate their poverty this can only be paid by the government, but it may be provided by a farmers' association or an NGO.

13. There is pressure on extension organizations to support the process of commercialisation of agriculture, because this can increase income of some farmers, mainly the powerful farmers, and stimulate economic growth. However, this may not be the best solution for many underprivileged farmers, who are resource poor, live in a remote area and have a low level of education. At the same time their aspiration level increases as they become well aware that other families in their society increase their income. Part 3 of this book discusses possibilities for extension organizations to help also these people by discovering together with them, especially the women, solutions for their problems, which may work in their location and situation. Often this will not be through specialization, but by analysing their farm conditions as a whole and their risk bearing ability. They will not be able to pay for support from a privatised extension service, but in a pluralistic extension system it may be necessary to develop an extension organization, which specialises in support to poor farmers.

14. The *changes in* the role of agricultural extension, which are needed require different *competencies* from the *agricultural extension agents* as most of them do not have at this moment. People who are interested to become an agricultural extension officer should be able to follow an education programme which teaches these competencies. They should not

learn how to conduct an extension programme, but to analyse, which role of agricultural extension is required in their situation.

15. One may assume that the *average agricultural researcher is more intelligent than the average farmer*, but there is no doubt that some of the farmers and farm women are also very intelligent. In the situation in which they were raised it was not possible to get a good education, but lack of intelligence is not the reason that they did not earn a Ph.D. These farmers play an important role in agricultural development, e.g. by experimenting with new technologies and farming systems and as leaders of farmers' organisations. We think that their brains are the major resource for agricultural development in Asia, which is underutilised. Several chapters in this book show this can change by involving them in the design, implementation and evaluation of extension programmes.
16. Often there is a large *gap between the price farmers receive for their products and the price consumers pay* for the same product. If this gap could be reduced this would result in a considerable increase in farm income. Can agricultural research and extension contribute to closing this gap? If so, who can do this? Possibilities to decrease this gap are discussed by Dixie (2005).

Extension research

Now there are major changes needed in the role of extension, research on extension can and should make valuable contributions to decide which changes are desirable in a certain situation and how these changes can be realised. Let us give some examples of kinds of extension research which might be useful:

1. Anderson, Feder and Ganguly show in Ch. 6 that the large investments the World Bank has made in the T and V system often did not achieve the expected results. Many people, also at the World Bank, believe that it is profitable for a country to invest 1% of the value of its agricultural product in agricultural research. If they had also invested 1% of the T and V budget in research aiming at finding ways to improve the effectiveness of this extension system, it is very likely that this research would have increased the rate of return on the investment in the T and V system considerably on condition that this research was done by competent researchers from the relevant disciplines and not only by economists.
2. Hasannulah presents in Ch. 7 clear ideas how extension can be improved to make the commercialisation of agriculture more successful. We believe that many of his ideas are right, but he presents little evidence that this is true and we also do not know this evidence. Extension research may prevent that some of the money invested in implementing these ideas is misallocated.
3. This book shows differences of opinion on the optimal way to finance agricultural extension. Policy decisions on financing agricultural research are that important that we should not make these decisions without using research to learn from the experiences with the way of financing, but Anderson, Feder and Ganguly show that with the T & V system the quality of this research was not good enough to improve decision making.
4. Most of the extension research so far is on extension to transfer technologies by government financed agricultural extension programmes. The conclusions of this research may not be valid for extension programmes on marketing and on increasing the

managerial abilities of farmers or on extension programmes conducted by NGO's, farmers organizations and commercial companies. There is an urgent need for research which helps to learn from the experiences with these kinds of extension programmes.

5. A conclusion of this book is that for the alleviation of poverty it is important to start extension programmes on combining agricultural and non-agricultural sources of income and on the way members of farm families can make a living outside agriculture. Research is needed to make these programmes as successful as possible.
6. We said that partnerships between different stakeholders are important for realising successful agricultural development programmes, but ordering people to work in a partnership with others will not always result in a successful partnership. All actors should be convinced that it in their interest to cooperate with others, but it is no exception that they see each other as competitors. Hall et al. (2004) show how research can contribute to developing more successful partnerships. It may be profitable to apply their methodology also in e.g. the ATMA project, which is discussed in Ch. 8.
7. ICT has a large potential to make extension programmes more effective and to decrease their costs at the same time. To realise this potential it should be clear which role ICT is expected to play in an extension programme. Adoption research has shown e.g. that mass media can be very effective in increasing the awareness of farmers of and increase their interest in innovations, but these media are not effective in the decision making stage of the adoption process (Rogers, 1983). We do not yet know well what the role of ICT in this process can be.

Leeuwis with van den Ban (2004: 206) discuss some roles it can play in an extension programme:

- providing access to information, e.g. on the characteristics of the available rice varieties,
- securing feedback for learning, e.g. did a change in the feed ration given to cows increase their milk production,
- providing tailor made advice, e.g. how much and which feed to give to this cow which gives 14 litres milk a day,
- exchanging experiences among farmers.

Research is needed on how ICT can perform these and other roles effectively and on what is the optimal way to combine ICT with other communication channels in an extension programme.

In extension research it can be difficult to generalise from a pilot project where a new extension strategy has been tested, to the results this strategy will have when it is used on a large scale. For instance Ch. 8 shows rather convincingly that the ATMA project has resulted in an increase in the average income of the farmers in the 5% of Indian districts where this project was introduced. Because of this success it will now be introduced in another 50% of these districts. It is quite possible that this will result in an increase in the production of high value agricultural products. If this goes faster than the increase in demand, the prices of these products will decrease. Consumers should be happy when this happens, but farmers may think differently.

We say "should be" and not "will be", because many consumers may not realise that they profit from the improved agricultural extension strategy. That is one

of the reasons why it is politically difficult to allocate a sufficient budget to the extension service.

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