

## Increasing the Ability of Farmers to Compete in the Market

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### Abstract

Competition among farmers is increasing. There are large differences between countries in labour productivity in agriculture, and in the rate of change in this productivity. This has resulted in a decrease in prices of farm products. Only those farmers who manage to increase their productivity more than that of their competitors will be able to continue to earn a living from farming. In this process extension services have two roles (1) helping farmers to increase their productivity, and (2) helping farm families, who are no longer able to compete, to find other sources of income. The first role requires that considerable attention is paid to developments in the markets. The second role has received so far little attention, although it is important for the welfare of the family. However, in countries with a limited growth outside agriculture it is difficult to perform this role adequately.

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### Introduction

With increasing average incomes in a given country, the proportion of the labour force working in agriculture decreases (Clark, 1957, World Bank, 1998). Labour productivity in agriculture has increased more rapidly than in the rest of the economy as a whole when measured over a longer period of time (Timmer, 1988: 265), whereas the demand for food increases less rapidly than the demand for other consumer goods. A considerable proportion of the present farmers and their families will leave agriculture in the next decade, either because competition makes it impossible for them to earn an acceptable standard of living from farming or because there are more attractive alternatives outside of agriculture. Being forced to leave agriculture is often very painful for the farm family. What can and should extension do to reduce this pain? This is a topic, which deserves in my opinion more serious discussion by extension scientists and managers than we have seen in recent decades. The answer may not be the same in all countries.

Reasons why it is difficult for many farm

families to make a living from farming are:

- their low level of productivity; poverty and productivity are two sides of the same coin,
- competition with other farmers, who increase their productivity and in this way decrease the real prices of farm products. In the Netherlands the real prices of agricultural products decreased in the last 50 years by about 70%. (van Bruchem, 2000: 36). Worldwide, prices for maize, rice and wheat have each declined by 50% or more over the last 20 years (Rosegrant et al. 2001: 3). There are differences of opinion as to whether or not this decrease in food prices will continue. A successful farmer who increases his productivity less rapidly than his competitors, will become unsuccessful.
- increased income aspirations, as one sees that others are increasing their incomes.

As a result of the liberalisation and globalisation of markets farmers compete increasingly with one another all over the world. In many countries governments have become less inclined to protect their farmers through import restrictions and price support programmes. Also the decreased costs and increased speed of transportation result in more competition. The

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rapid development of Information and Communication Technologies makes it much easier and cheaper to discover where one can get products of the required quality for the lowest prices. This is a development which is threatening the existence of many farms with a low level of and a slow increase in their productivity. I do not think that it is possible to stop this development and even if it were possible in one country, this may not be desirable, because in other countries the increase in productivity will continue. In the Netherlands we had many poor farmers on small farms in the Southern province of Brabant. Between 1960 and 1985 the average number of dairy cows on a farm in this province increased from 7 to 47 (Crijs, 1998: 115). This development made it difficult for Greek dairy farmers to compete with Dutch farmers, when their country joined the European Union. At the same time Dutch table grape growers were no longer able to compete with their Greek colleagues.

### **Productivity and income**

We can make a distinction between three different kinds of productivity. In most countries extension services pay a lot of attention to yields per hectare and per animal. In some countries also to productivity per 100 Euro invested. Both of these kinds of productivity depend to a large extent on the level of knowledge, the competencies and the skills of the farmers. Less attention is usually given to labour productivity. This is a pity, because recent World Bank estimates show that there are very large differences between countries concerning this productivity and in its rate of change (World Development Report 2000/2001: Table 8). In the most productive countries the added value per worker in agriculture is over 100 times that of what it is in the least productive countries. Clearly this difference is partly due to higher investments in capital and land, but difference in human and social capital also play a very large role.

Ruttan (2001: 189) has analysed the relationship between changes in labour productivity and in land productivity. This shows that the low rate of increase in labour productivity in Sub-Saharan Africa is related to a high population growth with few employment opportunities outside agriculture. Therefore, the number of hectares of

agricultural land per worker increases there much less than in other parts of the world.

These differences in labour productivity are an important cause of the large and growing differences in income between countries. Irz et al. (2001: 458-460) have shown that both countries with high added value per worker in agriculture and with a high added value per ha have a low incidence of poverty. However, this relationship is much stronger for labour productivity than for land productivity, whereas most agricultural extension services provide more help for farmers to increase their land productivity than their labour productivity. In 1960 the Gross Development Product in the richest 20 countries was 18 times that in the poorest 20 countries. By 1995 this gap had widened to 37 times (World Development Report 2000/2001: 51). These differences will cause very serious social problems, also in the richer countries, unless we are able to decrease them. This would require that we succeed in increasing the ability of farmers, and mainly of those in developing countries, to compete in the market. Towards this purpose extension agents can help their farmers:

1. to increase their productivity, through using new production technologies and improving the skills and competencies of the farmers. The latest Human Development Report stresses, rightly in my opinion, that the use of improved production technologies is an important way to decrease

*Table 1. Agricultural value added per worker in agriculture in 1995 dollars*

	1979-81	1996-98	change
South Asia	265	356	34%
Sub-Saharan Africa	418	379	- 9%
Australia	20880	30904	48%
Brazil	2047	4081	99%
China	161	307	91%
France	14956	36889	147%
Hungary	3390	4771	32%
Indonesia	610	749	22%
Italy	9993	20031	100%
Mexico	1882	2164	15%
South Africa	2899	3958	37%
South Korea	3800	11657	207%
USA	no data	39001	
The Netherlands*	23131	41245	..78%

\*The Netherlands 1994-96

poverty, but that one should realise that both the use and non-use of new technologies will involve risks. In order to teach farmers the necessary skills one should also make the tacit knowledge of the best farmers explicit. An example of the way this can be done is given in the inaugural address on 'the ploughing of my father' (van den Ban, 1949), but it can also be found in many textbooks for vocational agricultural schools, Reinders (1877-'79) for example. Unfortunately in many countries, including the Netherlands, one can no longer gain recognition by analysing tacit knowledge.

2. to produce the kinds and quality of products for which there is a growing demand in the market. I mentioned already that as a result of increased productivity the prices of farm products decrease, but in the past there have been large differences between products in this rate of decrease. We should study which changes are expected in the future, how many people, for example, will be willing and able to pay a price for organic products, which compensates for the higher cost of their production. Many extension agents are unable to help farmers sufficiently to make good use of market information, however, fortunately the FAO is now helping them to increase this ability (e.g. Shepherd, 2000).
3. to decide how they can combine farming with other sources of livelihood (Ellis, 1998). Many farm families are already doing this. In 11 African countries the average share of non-farm income is 39% of the total income of the farm families (World Development Report 2000/2001: 142). Often the extension services only help farmers to improve farm production. One reason is that a service department of the Ministry of Agriculture may be confronted with bureaucratic problems, if its staff helps farm families to earn more from handicrafts, tourism, trade, et cetera, as this is outside the domain of their Ministry, even if it is the best way to increase their income.
4. to find for some or all of their family members a non-agricultural job, which may require migration to a city. This is a decision which is very important for the welfare of the family, but in many countries it is much more difficult to get advice on taking this decision than on less important decisions such as which fertilizers to apply to the main crop.
5. To earn money from farm products other than food, for example, from an attractive landscape for the recreation of urban people. Usually the payment for these products will go through the

government, which implements many rules and regulations which farmers have to adhere to in order to receive payment. Only in richer countries is this an option.

Also changes in society outside their farm can enable farmers to compete more effectively in the market, for example:

1. An improved system of input supply and marketing of products. The success in the development of agriculture in the Netherlands in the past century is to a large extent due to the fact that here this system was more efficient than in many other countries.
2. Changes in legal systems which make it possible to organise marketing and credit supply more effectively and create opportunities to develop a land tenure system, which makes an efficient system of agricultural production possible.
3. Increased employment opportunities outside of agriculture.

As long as over 60% of the labour force of a country works in agriculture, the majority of the farm families will remain poor whatever the extension service does to help farmers to improve their production. If the labour productivity increases, it is possible to produce enough food for the population by utilising less than 5% of the labour force working in agriculture. This can result in a major increase in the average income in a country, where the people, who are no longer needed in agriculture, can find employment elsewhere with a higher level of productivity. We have seen this happening in several East Asian countries with a rapid economic growth as is shown for South Korea in Table 1. However, there are also countries where it is very difficult for people, who are forced to leave agriculture or who do not want to enter agriculture, to find alternative employment. This can create very serious social problems, for example, the urban slums. There are also rural areas where the physical situation or the remoteness from markets makes it very difficult to increase labour productivity in agriculture. Farmers there may not be able to compete with farmers in irrigated plain areas and as a result these areas may become depopulated. This may make life very difficult for older people, who cannot or do not want to migrate to other areas. It is very difficult to say what extension should do in such a situation.

Therefore, this issue should be discussed more seriously than has been done so far. In mountainous areas in Himachal Pradesh in India many farmers have been quite successful in raising their income by growing high value horticultural products which grow well in their cool climate. However, in many other areas such a solution is not possible and, for instance, the beautiful rice terraces in Southeast Asia may have to be abandoned, because with the increasing wage level it does not pay to maintain them.

It is often seen as a major role of agricultural extension to reduce the wide spread poverty among farmers. If this is possible, I consider it desirable to do so, but we should realise that for many farm families it is not possible to earn an income from farming only, which is comparable to the income of a skilled urban worker in their country. It is also necessary to create employment opportunities outside agriculture. A person who has done a lot to reduce poverty among rural people in the formerly poor south-eastern part of the Netherlands is the famous Philips. He started a factory of electric bulbs in this area 110 years ago, which has expanded into a huge electronics concern. This created employment opportunities outside agriculture which enabled the workers to afford to buy animal products. This demand for pigs, poultry and dairy products made it possible for small farmers to increase their income without having to increase the acreage of their farms.

### **Increasing farm income requires development of competencies of farmers**

It is often possible to earn a better income from farming than most farmers earn now, that is to say, if extension and vocational agricultural education helps farmers to improve their managerial abilities, and their knowledge, competencies and skills. This includes:

1. Recognising in time the changes in their environment, which cause both threats and opportunities. Many farm families live in an environment which changes to an extent that makes it impossible for them to continue their present way of life. A slow reaction to these changes makes it more difficult to find a solution for the problems these threatening changes in the environment bring about. Many extension scientists, who are in favour of using

participatory approaches do not realise that these may not work well in such situations. An important role of extension agents can be to help farmers to establish goals for their enterprises, which can best be realised in their own particular situations. If the strength of the competitors in their environment increases, it may be necessary to reformulate these goals.

2. Training in entrepreneurship can help farmers to utilise the opportunities that changes in their environment create for them. One difficulty is often finding able people to give this training. The trainer should not only be proficient in theory, but should also be able to think in an entrepreneurial way. The bureaucratic culture of many extension organisations is not an attractive environment in which people with this way of thinking have to work and it does not encourage them to develop their ability to develop creative new solutions for problems. We may have to study the experience of successful MBA programmes for ideas on improving pre-service and in-service training of extension officers. The training farmers need can include learning to use the information on markets and on competition which is available on the Internet. The competence to use this information becomes an important factor in the ability to compete. MANAGE in Hyderabad, India, makes ICT not only available but also gives training on how to use this technology in a number of Indian villages. If extension agents and farmers in developing countries make use of the new opportunities ITC has to offer for access to knowledge and information farmers in these countries need to be able to compete in the world market, then farmers will become more successful in this field.

3. Using market opportunities to earn a good income from more expensive agricultural products requires the development of the competencies to produce these products in an efficient way. Many small farmers in the Netherlands have succeeded in increasing their income by switching to the production of flowers, pigs and similar high value products (van den Ban and Bauwens, 1988, van den Ban, 2000). However, only those who produced these products more efficiently than most of their competitors, have been successful. Not only agricultural extension, but also vocational agricultural education can play an important role in developing the required capabilities. The World Bank has given about 10 times as much

credit for agricultural extension projects than for vocational agricultural education. I am convinced that in the long run the Bank would have achieved more, if it had better invested in education. It is important that the extension agents learn how the competitors of their farmers, perhaps in other countries, increase the efficiency of their production. In countries as the Netherlands and New Zealand many farmers' sons work some time on farms in other countries to get to know their competitors better.

4. Developing a more efficient farming system than that of the competitors cannot be done by individual farmers. Cooperation among farmers is needed in the development of new knowledge by profiting from each other's creativity and learning from each other's experience. In a number of countries study groups have been successful for this purpose (Oerlemans, Proost and Rauwhorst, 1997).

5. An efficient input and credit supply and marketing system is crucial for successful agricultural development. The Dutch government was unable to develop such a system and I doubt whether any other governments can or have been able to do so. There is a danger that businessmen can acquire so much power in this system that they are able to exploit farmers. This can be prevented if they have to compete with strong farmers cooperatives in which representatives of farmers play an important role in decision-making. Vocational agricultural schools and various courses can train farmers for making these decisions.

6. Increasing the power of farmers in the whole chain from food production to food consumption. In the past consumers bought their food from small shopkeepers. Today most people shop at multi-national supermarket chains, which have a powerful position in the market. These may buy many of their products from multi-national food processing companies such as Nestle and Unilever. Effective bargaining with these chains and companies is hardly possible for individual farmers, only large, preferable also multi-national, farmers' cooperatives can succeed. In these large organisations much of the power is

often not with the farmer board members, but rather the employed managers. There is some danger that their interests do not always coincide with those of the members. Only very well trained farmer board members can be an effective countervailing power.

### **Non-agricultural employment opportunities**

If farmers do not increase their productivity at a similar rate as their competitors, who may live in another country, they will remain or become poor. If in a country the average labour productivity in agriculture increases when less people are needed to produce enough food. That makes it not only possible, but also necessary for some of the farmers to find a non-agricultural source of income, perhaps in addition to their farm income. I would not be astonished if in the Netherlands in the next two decades the employment in agriculture decreases with more than 50%. To find alternative employment for farmers would require an extra expansion of the non-agricultural employment by 2%. That should be possible. However, if in a country as Ethiopia in the same period the agricultural employment would decrease from 90 to 80% of the labour force the non-agricultural employment would have to double. How is this possible with the very few attractive investment opportunities this country has to offer? Admittedly Ethiopia is an extreme case, but finding employment opportunities for the people who are no longer needed in agriculture is in many developing countries a problem for which I do not see a solution, while finding a solution for this problem is so important for the welfare of farm families.

In this paper I have not discussed the ecological aspects of agricultural development, but concentrated instead on the economic aspects. This is not because the ecological aspects are unimportant, but extension scientists already pay a lot of attention to them, whereas the economic aspects are somewhat neglected in a time when we are looking for ways to reduce poverty among farmers.

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