BOOK REVIEW

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Knowledge for development. World Bank, World Development Report 1998/99. Knowledge for development. New York, Osford University Press.

Each year the World Bank publishes a World Development Report, which contains statistical data on the development of most countries and discusses one topic which is important for successful development. This year it is called "Knowledge for development". Major conclusions of this report are: that "International institutions, country donors and the broader development community are rapidly coming to understand that knowledge is central to development - that knowledge *is* development" (p. 130). "Increasingly, donors are shifting their focus from finance to ideas" (p. 136). "The development community is taking on new sets of tasks related to the creation, transfer and management of knowledge" (p. 143).

The report makes a distinction between two kinds of knowledge: How-to-knowledge about technologies, for example, about different plant varieties and knowledge about attributes, such as the quality of a product, the diligence of a worker or the creditworthiness of a firm. There is often a large gap in knowledge about technologies and in access to knowledge about attributes between rich and poor countries and between rich and poor people inside these countries. The report discusses what can be done to decrease these gaps in order to increase the productivity and the incomes of the poor. Knowledge about attributes is crucial for effective functioning of markets and these markets play a crucial role in economic development.

Table 8 shows that between countries there are large differences in labour productivity in agriculture. From 15 countries it is reported that the added value per agricultural worker in 1994-96 was less than $ 200 per year, whereas in eight countries this was over $ 20.000. The range was from $ 69 to $ 41.245. Certainly, after reading this report I have no doubt that these differences in productivity are to a large extent due to differences in the level of the knowledge of farmers, farmers organisations, agribusiness firms and government agencies supporting agricultural development. As long as labour productivity in agricultural remains quite low in a large number of countries most farmers and farm labourers there will remain poor. However, if labour productivity increases, enough food can be produced by less people. In countries where those who are no longer needed in agriculture can find employment in other sectors of the economy, incomes will increase. But in countries with a lot of unemployment this can cause very serious social problems. There should be a balance between the development inside and outside agriculture. This is a topic which, in my opinion, requires more attention in designing extension policies than it has received so far.

The report says correctly in my opinion "For individuals and for countries, education is the key to creating, adapting and spreading knowledge" (p. 40). However, the World Bank itself has invested about ten times as much for agricultural research and for agricultural extension as for agricultural education (Maguire, 1998). We see a similar imbalance in many developing countries which invest very little in vocational schools or courses for their farmers.

The part of the report on "Policy priorities" has a chapter on "What can international institutions do?" which stresses the need to create new knowledge through research. However, this is not mentioned in the Chapter on "What should governments do?". This does not seem right, because "The average return

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to [investments in] agricultural research has been around 60%, but the dispersion is high, reflecting the risks" (p. 37). An extreme example are the wheat research programmes of CIMMYT and other CGIAR Institutes of which a benefit-cost ratio of 190 to 1 is reported (p. 131).

Chapter 8 stresses that the goals of knowledge management should be decreasing the gap between rich and poor countries and between rich and poor people within each country. In 1996 the number of Internet users per 1.000 people in the high-income economies was 10.000 times this number in low-income economies (p. 63). This can easily result in increasing the knowledge gap between rich and poor countries and as a result in differences in income. However, this result is not necessarily on condition that the development agents realise "that the poor know a good deal that they do not know". The poor "know their own circumstances, their own needs, ... worries and aspirations better than anybody else... They often have information about where they live ... that is not readily apparent to outsiders" (p. 117). An illustration of what is possible is that of Sri Lanka farmers who got on the average 50 to 60% of the Colombo price for their produce before there was a telephone service in their village and 80 to 90% after that service became available to them (p. 61).

One important idea in this report for extensionists is that farmers need for their decision-making information on a much wider range of topics than is usually provided by agricultural extension services. The World Bank economists give much attention to the need to be well informed about markets for inputs, credit, labour and products. Can this information be provided by a government agency or is it necessary to develop other reliable sources for this information? (Van den Ban, 1999). Government officials may not be the right people to help farmers to make better decisions on marketing, but people with experience in marketing may be more interested in increasing their own profit rather than the profits of farmers.

This World Development Report is useful for extension agents and extension scientists, because it shows the importance of knowledge management and gives ideas about the roles extensionists can and should play in this management. Many governments spend much more money on subsidising inputs, credit, irrigation and products than on helping their farmer to gain access to the most up-to-date and relevant knowledge. Often this will not be the most effective way to support farm income. However, the political rate of return on using taxpayers or consumers money on subsidies may be higher than using money to increase the ability of farmers to increase their productivity by using knowledge.

It is not by chance that the World Development Report is devoted this time to knowledge, but is a reflection of the fact that knowledge plays a role of increasing importance in our society. Many of the fastest growing firms are no longer in the business of producing goods, but they produce mainly knowledge, for example, firms in information technology, consulting firms and research institutes. For firms still producing goods their competitiveness depends increasingly on their ability to use knowledge effectively in their production process. As a result, there is a rapidly growing literature on the production, dissemination and utilisation of knowledge. The winter 1998 catalogue of books on "management and organization studies" of Sage publications contains, for example, 11 books on knowledge management. Eight on organizational learning and eight on human resource management. For the development of extension science it is important that we use this literature. We can better help farmers to use knowledge effectively in their enterprise, if we know how this is done elsewhere in society. This World Development Report can help us to learn about this experience.

However, the report gives the impression that the power in the World Bank rests mainly with economists trained in North America. Knowledge developed in other disciplines or in other parts of the world is only used to a limited extent, even if it is available among staff members of the Bank. Let me give three examples:

One chapter in this report is devoted to "Communicating knowledge", but discusses only information and communication technology. This is an important topic, because "Computing power per dollar invested has risen by a factor 10.000 in the past 20 years" and "The cost of voice transmission circuits has fallen by a factor of 10.000 over the same 20 years" (p. 37). However, "Most of the technological tools now available tend to help to disseminate know-how, but offer less assistance in using it." (p. 141). This has been known since the research on the diffusion of innovations carried out a generation ago, which showed that mass media are important at the awareness stage of the adoption process, but that at the evaluation stage farmers like to discuss whether it is desirable to change personally or not with somebody whom they trust (Rogers, 1962: 98-102). It would have been important to discuss how the necessary interpersonal communication can be organised effectively at an affordable cost. The efforts of the World Bank to this in a more effective way than through the Training and Visit system are not discussed (Purcell and Anderson, 1997). For a balanced view on the possibilities to improve the communication of knowledge, based on a wide experience in the developing countries, one can better consult the last three chapters of the recent book of Fraser and Restrepo-Estrada (1998) than this World Bank Report.

The literature on knowledge management also discusses another kind of knowledge than the two discussed already in this report: *tacit knowledge*. "Tacit knowledge is personal knowledge which is difficult to formalise and hence hard to share with others. Subjective insights, intuition, hunches and apprehensions belong to it. Tacit knowledge has a technical and a cognitive dimension. As the technical dimension one counts the implicit knowledge by way of skills and crafts. This is the craftsmanship developed through years of experience, where the craftsman is hardly or not at all able to indicate on which scientific or technical principles his skills are based. The cognitive dimension consists of mental models, beliefs and assumptions, which are so deeply rooted that they are considered as obvious. The cognitive dimension reflects a personal image of reality (what is) and a personal view of the future (what ought to be). This dimension determines the way in which we observe the world around us. Also wisdom can be considered as a component of the tacit knowledge" (Weggeman, 1997: 34-35, translation AvdB). This tacit knowledge is important for success in farming; it is reflected in the recent attention for indigenous knowledge. It also plays a major role in the relationship between farmers and traders, in leadership and interpersonal communication.

Therefore, we should study how farmers can develop this kind of knowledge and how their colleagues can learn from them. This problem was studied by Nonaka and Takeuchi (1998) in the Honda company. They stress the importance of observing how others are working and discussing with them intensively and why they are working in this way. Facilitating these observations and discussions might be the most effective way to stimulate the development and use of tacit knowledge.

I am still happy that as an agricultural student I was obliged to work five months on different farms to learn at least some of this knowledge. However, one reason why I did not become a farmer, was that I was afraid that I could not compete in this field with boys who where raised on farms.

Literature on knowledge management gives now considerable attention to the need of organisations to become *learning organisations*. Many organisations, including extension organisations, operate in a rapidly changing environment where it is difficult to predict future change. In order to remain successful they have to be able to adjust to change or if possible to stimulate change in their environment in a direction which is favourable for this organisation. The best way to do this is often to learn from their experience in interacting with this environment. The most useful description for extension mangers of how this can be done is perhaps the analysis of de Geus (1997) of attempts to change the Royal Dutch Shell Company to an effective learning organisation. Elsewhere I have tried to discuss how this can be done in agricultural extension organisations (Van den Ban, 1997).

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