

CHAPTER 7

SUCCESSFUL INFORMATION TRANSFER: THE PHOKOANE CASE

7.1 INTRODUCTION

The core problem addressed by this investigation is how information can be transferred effectively to rural communities. The training programme used at Phokoane to introduce small-scale farmers to effective maize growing in order to address the need for food security, provided the opportunity to investigate in depth how information was transferred from a First World environment to a Third World environment in a real-life context. The investigation promised to offer valuable insight into ways and means that make outside information more acceptable to people where oral cultures still prevail. So, the purpose of this chapter is to investigate the strategy followed in the design and implementation of the training programme. The following aspects are covered:

- A description of the case history of Phokoane
- An analysis and interpretation of the consecutive steps that were followed during the training programme
- Advantages of information transfer to small-scale farmers
- Recurring patterns in the transfer strategy
- Attributes of information which proved to be effective during the transfer process
- Reasons why the Phokoane Case is viewed as successful

7.2 CASE HISTORY

Phokoane is a rural community situated approximately 50 km east of Groblersdal, Mpumalanga. The topography is hilly and there are no rivers. The area has deep fertile soil, and the average annual rainfall is between 600 and 700 mm. The main crops grown in Phokoane are maize and groundnuts. The area is highly populated and most of the inhabitants belong to the North-Sotho-speaking Bapedi tribe (Kirsten, Sartorius von Bach & van Zyl 1995). Approximately one-third of the population practise some or other form of farming. Typically the size of the average farm in rural communities varies between two and four hectares (Bembridge 1987).

As was the case in many of the previous homeland areas, there was a lack of commercial agriculture in Phokoane during the late 1980s. With regard to agricultural development in rural areas in South Africa, the approach followed was large scale, centrally managed schemes, which were managed by parastatal companies. It was believed that this approach promoted better use of resources and the use of paid labour. Agricultural development corporations were used to execute these projects (Van Rooyen 1995). This approach is a typical example of the input/growth development

model followed in developing countries at that time (as discussed in chapters 2 and 3). Little was done to improve farming methods for small-scale farmers outside these schemes. Apart from a lack of fiscal means, most of the small-scale farmers also lacked knowledge of modern farming practices. Round the 1980s it became evident that the corporate managed settlement projects failed. The operational costs were too high and cooperatives under jurisdiction of the agricultural development corporations ran at a loss. It was clear that the prevailing approach had had its day and another approach was sought (Bembridge et al 1982, Van Rooyen, Coetzee & Swart 1993).

Of interest to this case was the contribution made by the Development Bank of Southern Africa (DBSA) which was established in 1983. One of its main considerations was to invest in developing (homeland) agriculture, which to a large extent comprised small-holdings. This mandate was interpreted as integrated rural development through entrepreneurial support. In effect this meant that its approach of supporting small-scale farmers provided the opportunity for integrating the promotion of farming with other rural development activities. It should be borne in mind that rural households devote their time and efforts to both farming and nonfarming activities. It was believed that this integrated approach, which included business and agricultural development, could be spearheaded by agricultural investment. Clearly one detects here an attitude of a developer "knowing" what should be good for a developing area, regardless of whether the inhabitants understand what it is all about or how they could be involved in their own development.

The DBSA was aware of the external and internal constraints, which acted as disincentives for development in rural communities. According to Van Rooyen (1995) some of the external constraints comprise natural agricultural risks, limited inputs and marketing facilities, poor infrastructure, inappropriate policies and legislation as well as problems associated with land tenure and the acquisition of agricultural resources. Constraints of an internal nature included lack of funds, labour, skills, knowledge and education. It was within this context that the Farmer Support Programme (FSP) was adopted. The FSP was one of the more contemporary development approaches where the idea was to involve small-scale farmers in agricultural development projects where they would be trained simultaneously in the necessary skills and learn by doing (Lionberger 1986).

During the late 1980s, DBSA introduced the FSP for development to various agricultural development corporations which operated in rural communities. The Lebowa Agricultural Corporation (LAC) – which was responsible for development of the Phokoane area – was one of several agricultural corporations in developing areas that accepted and implemented the FSP approach. Initially all did not go well due to resistance to change among staff members, dissatisfaction and suspicion among farmers who could not relate to the directive approach of an outside organisation, and because very little practical experience in the application of the concept was available (Adendorff 1991).

It was during this time that Adendorff – designer of the training programme for Phokoane farmers – was appointed manager at the Phokoane Cooperative. Managed according to the input/growth approach, this cooperative too ran at a loss. There was

general distrust and a prevailing foul mood among the inhabitants of the community. Maize fields were plundered before they could be harvested. Threats were made to burn the tractors. Staff members were forced to evacuate all the tractors to the Nebo police station. The cooperative manager (at that stage unaware of the DBSA's introduction of the FSP approach) also felt that he could not relate to the prevailing practices and decided to raise his concern about the future of the Phokoane Cooperative in a letter to his general manager. He wrote inter alia:

Because the task of development should start with the people, in their environment and on their level it is imperative that we [cooperative managers] should be full time in the field. I believe this is where we are going to achieve our success in the end conquering existing ignorance and suspicion (Adendorff 1987).

The quote above reveals a desire for small-scale farmers to be involved in their own development. This is a move away from the approach followed thus far. The fact that it was felt that the development – that is, the transfer of information – should be at the level of the small-scale farmer is already an indication that the message should be conveyed through training.

However, in the interim, general management – still concerned about the financial losses of the Phokoane Cooperative – gave Adendorff one year to put the cooperative on a sound footing again. He had to act swiftly to put his plan together, since it was shortly before the growing season. To aggravate matters, he could not liaise openly with individual farmers, since they would be viewed as “sell outs” by the rest of the community, due to the distrust that prevailed toward the existing practices. So, the very first participants (8 volunteers) were secretly trained under cover of darkness in his bakkie's headlights!

For Adendorff the FSP was very much in line with his own perception of the development of rural farmers. He interpreted the main objective of the FSP to be people oriented with the entire development programme being demand driven, depending on the needs, problems and fears of a particular community. He felt that by accepting such an approach the rural people would be helped to help themselves, instead of becoming dependent on handouts only (Adendorff 1991).

Since Adendorff knew the socio-economic circumstances in Phokoane so well, he held the view that development could best be initiated by teaching the small-scale farmers the basic principles of growing maize effectively at an elementary level. In this regard he complied with one of the support elements in the design criteria of the FSP, namely, training. From an Information Science point of view this meant transfer of information through training.

He believed that when initiating an FSP, the correct approach must be adopted and implemented. He firmly believed that the only way to succeed was to build trustworthy relationships with the farmers, to communicate at a level they could understand and to communicate in a mode they were used to, and to be completely honest in everything that was said or done. He believed that by adopting such an approach, the small-scale

farmers could be convinced that the situation in which they found themselves was truly understood and sympathised with, and that the authorities had no intention of taking their crops or their fields. From an Information Science point of view, trust building and honesty have never before been thought of as variables that could enhance or retard the transfer of information, and yet the Phokoane case showed that they could indeed influence the acceptance of outside information.

Since most of the small-scale farmers could not read or write, Adendorff had to devise a training programme where information regarding the basic principles of maize growing were conveyed in story form with the use of metaphors they were used to. Demonstrations and acting were built into the programme where necessary. Two of his priorities were that participation in training should be voluntarily and that men and women should have equal say in planning arrangements around the programme. He knew they were sensitive about the literacy issue, so he decided to invite them to his "school where one does not need to read or write!" This is already an indication that one does not need to be literate to be able to use information – a common misconception.

Against this background, the initial training programme was put into action. The training programme was designed with the different phases of the growing season in mind. Apart from factual information regarding maize production, the farmers had to be introduced to additional information regarding soil preparation, weed and pest control, climatic conditions, how to arrange and care for tractors and other implements (which are a prerequisite for ploughing and planting in modern practices), how to arrange for seed, pesticides and bags for harvesting and how to go about borrowing money, paying back loans, et cetera. From the issues listed above it is obvious that the types of information needed to transfer information regarding maize growing were far more than isolated facts on maize. This is an indication that information on a specific issue is mutually dependent on information about related issues in order to become useful.

The implementation of the training programme was done according to the different phases of the growing season to make a particular type of information or technique even more meaningful for the target group. This is an indication that timing is an important factor in an information transfer strategy.

The training programme involved a lot of preplanning where a number of variables had to be considered before the actual training could start and also planning for activities that were to come into play after harvesting and to ensure that the new method become part of everyday farming practices. The consecutive steps followed to design the training programme are depicted in the form of a flow chart in **Figure 7.1** (verso of previous page).

In the first year of the programme's implementation, the farmers had a very good season and they harvested bumper crops. Where they had harvested only half a bag per hectare in the past, they now succeeded in harvesting 26 bags per hectare (Adendorff 1991). The response of the first participants was overwhelming. Their success resulted not only in a change of perception, but also in a change of attitude. Their self-image improved to such an extent that they asked to be trained in other skills

as well. They were now ready to take responsibility for themselves – to earn a living by growing maize in order to become self-reliant. Interestingly, many of them now wanted to be taught how to read and write!

The success of the first voluntary participants gave rise to an unexpected demand from more volunteers. In five years time, the “school” that had started out with eight volunteers under cover of darkness grew to a voluntary corps of more than 3 430 small-scale farmers in and around Phokoane by the end of 1991 (Adendorff 1991).

The initial success of the training programme resulted in the adoption of the programme by the Lebowa Agricultural Corporation (LAC) who introduced it to other groups of small-scale farmers under their jurisdiction. Through this training programme a substantial number of people in rural communities could take part in growing food for themselves, not only to alleviate chronic hunger, but to raise their maize growing practices to a subsistence level.

7.3 ANALYSIS AND INTERPRETATION OF THE PHOKOANE CASE

From an Information Science point of view, in reality Adendorff’s training programme comprises all the consecutive steps and activities required for the deliberate transfer of information to a specific target group. The training programme as such represents the last link of the transfer process between the information resources of the developed world and the end users in a developing world. In Figure 7.1 the training programme is depicted as a flow chart. In order to establish exactly how the information transfer process evolved in circumstances we know little about (ie, information flow in a community originating from a predominantly oral culture), the different steps and activities of Figure 7.1 will be analysed and interpreted step-by-step. For clarity, each step will be illustrated in an exhibit box at the beginning of its discussion.

7.3.1 Step 1: Existing state: collecting information and raising awareness

Table 7.1 Existing state

Collecting information	Situation analysis	Raising awareness
Observation Survey	People Farming practices Farming conditions	Interaction

(i) Collecting information

When establishing the existing state of a developing area, one tries to obtain certain information from the rural community for analysis to determine why certain problems exist and how they can be improved or solved. In effect this means that one needs to obtain certain types of information regarding the target group and its environment in order to decide on the appropriate type of information to provide for a specific situation. In the Phokoane Case methods for collecting information were observation and a survey compiled by Adendorff. The manner in which this was conducted reveals the interaction with the particular target group.

(a) Observation

While working for LAC prior to 1989 Adendorff had the opportunity to make certain observations concerning the local people, their farming practices and farming conditions. He obtained valuable information about the target group and their culture through observation, while working among them. Although he did not live among the people when collecting information for his investigation, he had fairly good working relations with small-scale farmers and moved frequently among them during his daily activities in the rural areas.

In his observations of the local people, he detected underlying fear and suspicion of anyone from a governmental body. This is an aspect that he later clearly distinguished from the normal needs and problems related to farming practices. Interestingly enough the observation of being suspicious of anyone from a governmental body was also reported of rural communities in other African countries (Aboyade 1984:260). Adendorff's identification of fear and suspicion as variables that could interfere with his transfer effort differs from other transfer efforts which mainly focus on the formal or technical side of information transfer.

When given the opportunity to implement the new approach, Adendorff already had a fairly good idea about the type of problems present in the Phokoane community. This pre-existing knowledge, as well as his general knowledge of maize production, laid the foundation for constructing an appropriate interview schedule to collect data for a proper needs' analysis of the existing food producing problems of the Phokoane community. A copy of this schedule is attached as **Appendix A**.

(b) Survey

Currently methods of participatory rural appraisal (PRA) or rapid rural appraisal (RRA) are applied where the target group participate in the survey. In doing so, the target group usually provides valuable information to the investigator. At the same time they become aware of deficiencies in their way of doing things. However, Adendorff was not familiar with either the PRA or RRA methods at that time. Nevertheless, his survey also depended on the participation of the interviewees.

With regard to the purpose of the training programme and the type of information to be transferred, Adendorff had to obtain information in order to

- identify the role players in a development programme for rural farmers (ie the farmers, financiers, developers, cooperatives, government departments, local authorities, etc)
- enable the investigator to design an appropriate development programme
- set guidelines along which development should take place
- establish what the farmers' situation was with regard to living conditions, farming practices, land holdings, agricultural viability, and level of knowledge
- establish the farmers' fears, problems and needs

With all this in mind, and the insight he had already obtained through observation, Adendorff devised an interview schedule (Appendix A) with regard to land size, average yield, family size, monthly and annual consumption, average shortfall, average surplus, price of meal, price of seed, price of fertilizer, inputs obtained, time of planting, time of ploughing, cultivars, ploughing depth, ploughing costs, planting costs, fears regarding confiscation of their lands or crops, and others fears and problems they might experience.

The manner in which the interviews were conducted with this particular type of information user were of particular interest to Information Science.

Since the majority of participants were illiterate, they had to be interviewed. The interviewer used their responses to complete the interviewing schedules. During the interviews Adendorff made a point of explaining in a very simplified manner why he needed the particular information. He gained their cooperation by using a "metaphorical approach". For example, he explained to them that he needed certain information from them in order to build the road on which they must walk in future. In order to build this road, he must determine how much building material is required and this he could not do without their help. They could easily relate to the manner in which he addressed them, because people of an oral tradition are inclined to convey messages in metaphorical speech so that the listener should not feel offended (Olson 1994:137). This relates well to findings about communication in the oral tradition as discussed in chapter 4 of this investigation.

In approaching the participants in this way, he also built awareness and prepared them for the requirements needed to participate in the "new" way of growing maize. Throughout his initial contact with these rural people, Adendorff was constantly busy building trustworthy relationships.

Considering the contents of the interview schedule it becomes clear that Adendorff did not only aim to obtain hard facts regarding farming deficiencies, et cetera, he also wanted to probe the hidden factors that could determine the acceptance or rejection of the information that was to be provided. That is why he included questions about their fears. This would later be used deliberately to build up trustworthy relationships throughout his contact with the target groups.

Since Adendorff was aware that rural people were rather suspicious of outsiders, he had to assure them of the anonymity of the survey by telling them that their names were not needed for the survey. He emphasised that participating in the interviews was completely voluntary.

While conducting the survey, Adendorff avoided asking questions regarding personal information about the people. He was mainly concerned about how they produced food, therefore, he focused on this type of information. He deliberately avoided questions on personal issues such as how many children they had, because such questions caused uneasiness and could harm their frail relationship at that stage. He found that they talked about the other types of information at a later stage when they were more at ease with him, and then in a more natural way.

Valuable lessons can be learnt from the way in which the interviews were conducted among rural participants. Making use of metaphorical speech and addressing issues indirectly seemed to be an effective way of obtaining honest answers from people of an oral tradition, because they were used to communicating in this manner.

Adendorff realised that he had to be very careful how he phrased his questions. For example: when inquiring about the size of one household he would ask how many people shared the meal every night – a rather indirect approach. In another instance, to prevent respondents from answering what they think the investigator wishes to hear, he would ask how much they paid for seed and later on he would ask what type of seed was used. (He knew that the different cultivars were priced differently.) In this way he built in checks and balances.

The above approach followed with the initial interviews with group leaders at Phokoane simplified matters with other groups later on.

(ii) Situation analysis

From the information obtained from observation and the interviews, Adendorff was able to make his intended needs' analysis. For purposes of this investigation the results of the needs' analysis revealed more than socio-economic needs only. It provided information that gave insight into the existing state of the target group at that time, that is, the people, their knowledge of farming practices, the farming practices used and the farming conditions – as discussed below:

(a) People

- Most of the rural farmers were either elderly people or women with young children
- The average household consisted of seven people with very little to eat – most of the families lived below the breadline
- They had virtually no income except for the meagre support from a husband earning a living in the big city, or the old age pension of one of the family members
- Most of the rural farmers were illiterate and lacked knowledge of proper farming practices
- Most people lived according to the traditional African cultures where they act within a group and the headman or an elder makes important decisions on behalf of the group. They were fond of singing and dancing to demonstrate their feelings and emotions. All seemed very religious.

Interestingly, most of these features identified by Adendorff were observed by a variety of authors – such as Aboyade (1984), Aina (1989), Oswitch (1990), Sturges and Neill (1990) and Nwagha (1992) – who wrote about, or did research in developing communities elsewhere in Africa. According to Adendorff (1991) many of the above-mentioned features observed among the interviewees, could contribute to poverty,

hunger, bitterness, anger, fear and distrust. He realised that unless these problems were addressed together with the problems on farming practices, all development efforts would be fruitless.

Underlying the above profile of the people is the fact that they were all struggling to survive. They needed information on how to grow food to combat hunger, rather than how to farm for a profit. This has important implications for the transfer of information, because most of these features could have an indirect negative impact on the transfer of information if not considered properly in a transfer strategy.

(b) Farming practices

From the needs' analysis it became clear that the implementation of poor cultivation methods could cause many of the crop failures among small-scale farmers (Adendorff 1991). The analysis showed the following major constraints:

- Almost no fertilisers were used. Only 3% of the small-scale farmers used fertilizers
- Virtually nobody used topdressing, or had ever heard of it
- Certified seed was not used – 95% of small-scale farmers used the wrong seed
- Traditional broadcasting of mixed seed (pumpkin, watermelon and maize on one land)
- Traditional cultivation started too late (ie January, instead of October)
- The small-scale farmers ploughed twice at an average depth of 100 mm, instead of once at a depth of 250 mm
- Incorrect plant population per hectare – 98,2% planted incorrectly
- No pest control or any weed control was applied
- Incorrect utilisation of natural resources such as rain, wind, high summer temperatures and cold winter temperatures for various stages of maize production
- Lack of money. They could not afford appropriate implements which could improve their farming practices.
- Lack of support services – ploughing and planting services, credit facilities, etc were almost non-existent

The above reveals that the farmers lacked information about the more developed farming practices – which could ensure food security. The existing state – where very little was harvested – confirms that the traditional practices could not secure a sustainable crop. It seems that a lack of knowledge on those aspects that were prerequisites for successful modern farming practices contributed to crop failure among small-scale farmers at Phokoane. The facts revealed above gave Adendorff a clue to the factual type of information he had to transfer to his target groups.

From an Information Science point of view it is important to point out that the profile of the people shed light on the indirect factors that could retard the transfer of information about maize farming, while the profile of farming practices reveals the lack of factual information needed to enhance maize farming.

(c) Farming conditions

Not all information needed to plan an effective transfer strategy could be obtained from the participants. Most of the data on farming conditions was obtained by Adendorff from official records such as the DBSA's series of development information on the previous homeland governments (DBSA 1986) and was not collected during the survey. The following data on the Phokoane area were important for Adendorff's needs' analysis:

- Soil quality – high to marginal potential
- Rainfall – Good average precipitation for dry-land crops
- Landownership – The majority of farmers in Phokoane rent their land from the Local Authority. However, a few people in the Phokoane Magisterial District own large farms. They, in turn, rent small portions to interested parties.

It should be mentioned that not all members of a rural community own land for cultivation. In the case of Phokoane about one-third owned land.

The data collected on the three issues discussed above, enabled Adendorff to make a situation analysis with regard to the types of problems to be addressed. These three areas provided valuable information on the living standards of the people, their traditions, culture, religion, fears and expectations, level of education, food requirements, crop yields, landownership, farming practices and available support services.

From an Information Science point of view, sections (a) and (b) respectively provided insight into factors that could indirectly impact on the transfer strategy and factual information needed. Section (c) provided information needed in planning and decision making. So, from Adendorff's survey we learnt that the developer needs information in order to transfer information. In the case of Phokoane, three types of information (identified above) were needed for the planning of an information transfer strategy for maize growing by small-scale farmers.

All the information collected enabled Adendorff to adopt an appropriate approach that could be followed to initiate development, so that participants and eventually the whole farming community could benefit.

(iii) Raising awareness

Apart from the information obtained from the interviews, Adendorff's knowledge of the old approach in which the small-scale farmers had no say in development practices, and what he observed when visiting the fields, made him realise that the small-scale farmers

should also have a say in matters. He believed that the approach should be changed from a top-down to a bottom-up approach where the local farmers could take part in affairs concerning their livelihood. In his interaction with the small-scale farmers, they became aware of their lack of knowledge on how to farm more effectively. The manner in which interaction took place developed a new, more positive attitude and a willingness to participate among the small-scale farmers.

7.3.2 Step 2: Planning and management of the transfer strategy

Table 7.2 Planning and management

Approach	Group system	Support services
Action plan Implementation plan	Farmer interest groups Group committee	Tractor services Seed, fertiliser, etc Harvest facilities

The second stage of Adendorff's training programme compares with the planning and management step of the information transfer strategy. All the steps taken in this stage involve activities about planning, the approach of the training programme, arrangements regarding the target groups and arrangements regarding support services. Planning in advance for all three steps proved to be important for the smooth running of the training programme and of course for the effective transfer of information.

Consistent interaction with, and participation of the target groups during this stage were crucial for trust building between the trainer and the target groups. Interaction and participation at this stage were also important for raising awareness regarding maize production, and to prepare the participants for the actual training sessions to follow.

How plans and activities were carried out during this stage will be discussed below:

(i) Approach

The approach that Adendorff adopted was in line with the goal that DBSA had in mind with FSP, that is, to raise agriculture from a subsistence level to a commercial level. However, Adendorff found that the farming practices of the people who volunteered to participate were even below subsistence level. Therefore, he set a goal to develop agriculture from a sub-subsistence level to a subsistence level and eventually bring it to a commercial level.

He also felt that a bottom-up approach should be followed where the local farmers could take part in development practices on a voluntary basis. No practice which they did not understand or could not relate to should be forced on them.

In order to achieve the set goal, he adopted the following aims:

- Establish communication and healthy relationships with the local people through voluntary participation

- Eliminate fears, distrust, hatred and bitterness
- Establish training programmes appropriate for illiterate adults
- Help farmers to help themselves (empowerment)
- Provide a training course according to the (agricultural) needs of the particular community
- Arrange for the necessary support services needed for production activities

These aims provide us with valuable insight into how information which was obtained in the previous stage was now applied according to Adendorff's understanding of an appropriate transfer strategy which coincides with the development approach adopted by FSP, namely, to involve the participants by transferring information through training to illiterate adults. The transfer of information should be limited to the needs for a specific situation and, during the transfer process, underlying fears, et cetera, should be addressed. The transfer process cannot be carried out in isolation. So, the appropriate support services needed to enhance the transfer process should be considered and actually planned for when drawing up the transfer strategy.

(a) Action plan

In order to achieve the stated aims, Adendorff devised an action plan consisting of a set of consecutive steps, which are discussed below. The sequence in which the steps were set was to be followed in practice (for all would-be target groups) to do justice to the bottom-up approach he envisaged. These consecutive steps were the following:

- Identify problems, needs and fears of specific group
- Present the training programme (Phases I and II)
- Follow-up visits / practical extension
- Testing and graduation ceremony
- Evaluation of the programme's performance
- Arrange support services in advance

The action plan was intended to convince the local farmers of their need to be trained and how it would help them to overcome their problems. After the action plan was drawn up, it was taken to the farmers and explained to them for their approval.

Adendorff's action plan is an indication of his commitment to involve the target group from the beginning and make them fully aware of what they could expect from the training programme.

The following points were presented for discussion with the participants:

- A training programme will be implemented, which will teach them the basics of maize production
- They will learn how to improve cultivation methods and crop rotation
- Through the training programme they will learn to maximise use and conservation of natural resources
- Every participant's maize fields will be visited on a two-weekly basis
- Agricultural practices will be raised to a subsistence level
- Phase II of the training programme will be implemented as soon as Phase I has been completed successfully
- After Phase II agricultural practices could be raised to a commercial level

For Adendorff it was important to discuss every step taken with would-be participants. As a result he found that a lot of the initial resistance was broken down, and the farmers committed themselves to supporting the development effort. It appears that discussion of the action plan with the small-scale farmers motivated them to participate in the forthcoming training sessions.

(b) Plan for implementation

After the action plan was accepted by the farmers, a plan for implementation was drawn up to show the participants how the training programme was going to be implemented and how they were to be involved. This plan was also discussed with the participants to address uncertainties, and to gain their support and commitment as in the case of the action plan.

The implementation plan comprises the following important points:

- Voluntary participation was emphasised every time the plan was proposed to a group
- The farmers who initially came for training were asked to return to their communities and form a group of interested farmers who were willing to receive training. These groups were called Voluntary Farmer Interest Groups (VFIG).
- Each group was to select its own committee, the Group Committee
- Each committee was briefed on its responsibilities regarding assistance to the trainer and the group. (Functioning of the group system will be discussed in a later section.)

- Phase I of the training course would be presented in the first year. The training comprised a theoretical part called the *school*, and a practical part, which included visits to the fields and further practical training and advice – that is, learning by doing
- Phase II would be presented after Phase I had been completed successfully and only to those who were interested in further training
- Participants would be tested orally after completion of each phase
- Certificates would be presented to all participants who completed a course successfully
- All groups would be visited regularly on a two-weekly basis for practical assistance in all aspects of production

Only after the implementation plan had been discussed with the interested farmers and the trainer was convinced that they were satisfied, did he request them to form their own interest groups as discussed below.

From an Information Science point of view, important lessons can be learnt from Adendorff's initiative to manage and control the transfer of information to small-scale farmers in this way. Much more emphasis is placed on the involvement of the receiver of information than was the case with transfer strategies followed in previous development approaches.

The following section deals with the group system as envisaged by Adendorff, followed by the actual formation of the Voluntary Farmer Interest Groups and then a discussion of the selection of the Group Committees and their activities. From an Information Science point of view, the group system is a good example of the creation of an informal channel or a network to transfer information.

(ii) Group system

As part of the planning stage of the training programme, Adendorff had to get the group system in place. Adendorff believed that the group system was the only way in which large numbers of farmers could be accommodated in the training programme. Since the inception of the training programme in 1991, the number of participants had grown to about 7 000 by 1995. Within the group system it was possible to train this number of people with the help of four to five trainers.

The reasoning behind the formation of groups was that members of a group lived in close proximity to each other. So, the trainers need not cover long distances to visit individuals' fields during their two-weekly visits. Members of a particular group were usually all at the same level of progress, which simplified training efforts and avoided the need to train individuals separately within the same area.

Apart from the advantage to the trainer, there are also other advantages from which the group could benefit. One of these is that people living together in the same community, sharing the same problems, having the same aspirations, expectations and hope for a better future, are brought together on common ground. Interestingly Fuglesang and Chandler (1987) also mention that people's interests control the flow of information in society. It is believed that when people share an interest in a given topic, communication is enhanced among the group.

Of interest to Information Science is that the group system is used deliberately to expose a number of potential receivers to outside information. However, this deliberate transfer differs from the dissemination of information used by mass communication activities where the receivers are unprepared and do not necessarily have the background knowledge to which they can add the "new" information.

Adendorff found that support for one another within a group is typical of rural communities. Forming a training group often resulted in strong camaraderie where these people stand together and help one another wherever possible. They achieved their common goal, namely to eliminate hunger. This is probably the first time that their goal could become a reality. This also had an advantage for the transfer of information in a predominantly oral society where all "new" information is stored in memory. Should one member of a participant group forget something they were taught (eg how deep to plough), the other members of the group were available to give the answer. The group could also be used as a sounding board by individuals who were uncertain about certain facts they obtained during the meetings. Indeed, the group system served as an informal channel for interaction.

Another advantage is that when farmers purchased or marketed in a group they could share transport, thus reducing costs. The same applied to bulk purchases of certain insecticides, fertilizers and other inputs. In addition, when tractor services were required from a contractor, the group could divide the expenses among them. This also had an advantage for the contractor who could then operate in one area at a time.

Adendorff realised that each group is unique in its own right, and should be treated as such as far as training is concerned. Without their trust, cooperation and participation, implementation of the training programme would not have been possible.

From an Information Science point of view it seems important to use knowledge of group dynamics among rural people to improve information transfer to rural communities. The following is an indication of how Adendorff used group dynamics to transfer information among participant groups.

(a) Voluntary Farmer Interest Groups

All those leaders who contacted Adendorff after the successes of the initial group, were asked to return to their respective communities and form their own groups of people who were interested to be trained in maize production. No restrictions were placed on the number of participants per group, regardless of whether there were 7 or 70 per group. There were also no age restrictions. In fact, some farmers were in their eighties!

Each group was required to elect its own committee, consisting of a chairperson and four members. Knowledge obtained about the composition of the community was cleverly applied here. Since the majority of participants were women, the only requirement regarding the composition of the committee was that two of the committee members should be women. It was deemed essential that the committee be made up of an uneven number (usually five members), because this enhanced decision making and problem solving. This was especially so in the event of a disagreement or an argument. The five members were taught to vote and a definite outcome was assured in this way.

The fact that each group was required to elect its own committee resulted in the identification and election of natural leaders. This simplified matters for the trainer with regard to motivating groups to implement the newly obtained information in an orderly fashion. The formation of voluntary farmer interest groups was an attempt to acknowledge the very people involved in food production for survival.

(b) Group committees

True to the tradition of metaphorical speech which the participants understood so well, Adendorff introduced the concept of the group committee as a hand with five fingers. He explained to them that separately the fingers are not so effective, but together they enable the hand to function properly. Two fingers represent men, two represent women and the middle finger represents the chairperson! Needless to say the concept was accepted without any resistance.

From an Information Science point of view the group committees fulfil a very important purpose in the transfer of information. Firstly, they serve as communication channels between the trainer and the respective interest groups. Whatever the needs or problems of the groups may be, they are to be directed through the committees to the trainer. Whenever the trainer needs to give the groups information with regard to meeting dates, venues, et cetera, it is transferred to one of the committee members to pass on to the group members.

The committees also have certain responsibilities. These are to

- register the groups with the local cooperative
- arrange with the trainer and the groups for training
- select a venue for training (could be a tree, local store, home or school grounds)
- solve problems or differences among members of the groups
- assist group members with arrangements for agricultural services, inputs and credit
- ensure that group members adhere to all standards of maize growing as taught in their training (eg applying the correct amount of fertiliser to each plant as indicated during the lecture)
- decide on the future of the group

For the transfer of information the involvement of the participants in the training programme through the formation of groups is crucial. Here Adendorff harnessed rural tradition to transfer outside information through channels the rural people are used to, namely, by word of mouth.

From an Information Science point of view the group committee is a point where the transfer of information to rural communities deviates from the conventional methods used in the developed world. Of interest too is the type of information being exchanged through the group committee. That is, information regarding the communities' livelihood and practical arrangements that could affect their decision making – not factual information. So, one can view the group committees as “ad hoc” channels to be used for transfer of information in the groups' interest only. Factual information regarding maize growing went through the training “channel”, which will be discussed subsequently.

(iii) Support services

Apart from the training leg of this programme, Adendorff arranged that all support services were in place to complement his training programme. For example, he arranged ahead of time for tractor services, seed, fertilizer, pesticides, et cetera to be ready when needed. He also arranged for marketing facilities after the crops were harvested. These planning skills were later taught to the small-scale farmers at a more advanced level by including them in Phase II of the training programme.

The above is evidence that the transfer of information is dependent on the effective functioning of the different subsystems within the farming system. If one of these subsystems malfunctioned, it would have been to the disadvantage of the whole training programme and thus the information transfer strategy as a whole. The lesson learnt from this is that any transfer activity should be well managed in coordination with activities of other support systems. The success of the transfer of information at Phokoane can to an extent be ascribed to coordination and good management of all the other support services. It appears that Adendorff had the ability to plan and manage his transfer strategy on a grand scale.

7.3.3 Step 3: Actual transfer of information

Table 7.3 Actual transfer of information

Transfer through training	Appropriate techniques	Supportive tactics
Training programme Phase I: Theory Practice Phase II	Lectures Lecturing aids: Metaphors Storytelling Demonstrations Repetition Revision Field visits	Building trust Situation-specific information Repackaging information Group dynamics Sense of time Sense of orderliness

(i) Transfer through training

In the Phokoane Case, training formed the core of the information transfer strategy. Considering the lack of knowledge on maize production among the small-scale farmers, their poor self-image and their way of conveying messages, Adendorff had to devise a programme that could fit in with their existing methods of dealing with information. Therefore, he used training to introduce outside information, that is, to add new concepts to what they already knew about maize production.

Considering his target group's limited understanding of information related to modern farming practices, and the fact that all outside information had to be memorised, Adendorff decided to divide his training programme in two phases. Phase I would constitute a number of lectures where basic principles regarding maize growing would be introduced. Phase II would comprise more or less similar issues, but at a higher level of sophistication where numbers, amounts, dates and measurements were introduced at a level that illiterates could handle.

It is remarkable that Adendorff had no tertiary training and worked purely on his experience with black people from childhood and his experience of (commercial) maize farming. Unwittingly he applied a very basic principle of training, that is, to move from the known to the unknown, or from the less complicated to the more complicated. Thus the small-scale farmers were allowed an opportunity to come to grips with basic perceptions, before moving to their application in a given situation.

The manner in which the transfer of information was handled during the period of training is discussed below within the framework of the two phases.

(a) Phase I

Phase I of the training programme comprised a set of six lectures about maize growing. For practical reasons Phase I was divided into two sections, namely, a theoretical part where the factual information was introduced in consecutive lectures, and practical training which consisted of visits to the farmers' maize fields to discuss and visually demonstrate whatever was introduced in the previous lecture. The idea was to reinforce new perceptions learnt.

• *Theoretical training*

Considering the level of education of the participants, it was necessary to limit the contents of the lectures to the basic aspects of maize growing. Since the participants were illiterate, the contents of the course had to be compiled in such a way that information could be easily memorised and also be related to what they already knew about maize growing. So, the lectures started with relatively easy concepts and gradually progressed to more complicated concepts.

The contents of the different lectures of Phase I followed the different stages of maize growing. That is, from soil preparation up to the harvesting stage and eventually marketing. The theoretical part was broken down into several lectures and presented

at a set venue. The programme contents were divided among six lectures as illustrated in the box below.

Table 7.4: Lectures for the training programme (Adendorff 1991)

Lecture no.	Contents of lecture
1	1.1 Introduction to the maize plant 1.2 Requirements to produce a good crop 1.3 Utilisation and conservation of natural resources 1.4 Soil cultivation
2	2.1 Fertilisation 2.2 Purpose of agricultural lime
3	3.1 Weed control 3.2 Witch weed 3.3 Crop rotation
4	4.1 Pest control 4.2 Stalk borer and termites 4.3 Establishing a maize crop 4.4 After-care of maize crop
5	5.1 Farmers' identification of problems 5.2 Stock and grazing
6	6.1 Examination 6.2 Issuing of certificates 6.3 Slide and film show

- **Practical training**

Although the theoretical part of Adendorff's training programme was a practical way of transferring factual information to the participant groups, he felt that it was important that it should be followed up with the transfer of information in a real-life situation where the "how" and "why" of the information obtained during the lectures should be built on during field visits every two weeks.

This practical training continued throughout the growing season. It served as a reinforcement for facts that were transferred during the lectures, and farmers were assisted practically. During these visits the different aspects learnt about in the lectures were discussed or pointed out in the maize fields. For example: during the lecture on pest control the participants learnt about the stalk borers that could devastate a whole crop if not treated in time. These pests only appear at a specific time during the growing season.

During field visits, the participants were taught how to look out for signs of their presence. Most of the participants were familiar with the particular beetles and they observed holes in the leaves of maize plants, but never related the two types of knowledge, or realised that this was what caused crop failure. Now that they knew what to look out for, they were prepared to care for their crops. This is an example of empowerment through information obtained in a real-life situation – seeing is believing.

Also during field visits, participants were assisted with all kinds of personal problems. They could ask questions on concepts that were not clear to them, or things they had forgotten. Such was the case when a stormy argument developed around the correct depth that was required for effective ploughing. The misunderstanding was cleared up during a field visit. This incident is a typical example where the human memory as a storehouse of information failed its owner!

To avoid suspicion, visits to a farmer's fields were always made in the farmer's company, or in the presence of a witness (an example of continual trust building). These visits were used to obtain information with regard to the participants' input needs from the cooperative and also to inform the farmers of information the cooperative needed from them with regard to administrative arrangements. This was also the time when input related information could be transferred to the farmers, for example, the availability of fertilisers and pesticides at the cooperative.

From the examples given above, it seems clear that field visits were used for both reinforcing the contents of the lectures, as well as transferring additional information important to the cause. Thus, from an information transfer point of view, field visits were another important communication channel devised to exchange messages between the participants and the development agent.

(b) Phase II

The Phase II training course was based on observations of the farmers' performance in Phase I. It was developed to provide for farmers who had already completed Phase I and had a desire for further training. Such farmers experienced at least one growing season with the necessary extension and after care. They already had the idea of farming in a more structured manner and had also developed a feeling of responsibility toward farming in general.

Although the same approach that was used in Phase I was adopted for Phase II, it differed in that the training was at a higher level and included soil conservation, chemical weed control, financial planning and programme planning. Much more emphasis was placed on the concept of planning, and using the seasonal and climatic conditions to their advantage. Farmers were also taught how to keep a calendar for the different activities and chores that need to be conducted regarding maize production – thus systematisation in applying information for a specific farming practice. They were also taught the importance of carrying out certain activities on a regular basis, such as field visits, checking for the appearance of pests or weeds in their fields, and the application of fertilizer at set times – awareness of the importance of time in the application of information on maize production.

The aim of the approach followed in the lectures of Phase II was to a certain extent to develop a sense of responsibility, to become self-reliant and to develop a more positive attitude toward sustainable farming practices. The contents of the lectures were set out in such a way that farmers would realise their responsibility in caring for the environment, or being responsible when using chemical weedkillers, or budgeting carefully so that they would not find themselves in financial trouble.

An outstanding feature of Phase II was that the basically illiterate farmers were gradually introduced to more concrete numerical information. Numbers, amounts and dates now played a more important role. For example, they learnt about measuring lengths and heights when constructing a storm drain or building contours and waterways. When using fertilizer they needed to understand the meaning of a combination of letter symbols and numbers on fertilizer bags, for example, that NPK refers to nitrogen (N), phosphorus (P) and potassium (K) respectively, or that 3-2-1 and 4-3-4 also refers to the relative ratio of the three elements contained in the fertilizer. They had to learn how to “read” the meaning of the particular fertilizer and decide whether it is suitable for their particular area, for example, 3 is (N), 2 is (P) and 0 is (K) and for their district 3-2-0 was advised at planting time while LAN (refers to limestone ammonium nitrate) may be required for additional application later in the growing season. Understanding numbers was also important when working with chemical weedkillers, for example: how many millilitres to mix with one litre of water.

In order to make use of schedules in programme planning, it is essential to understand dates. A careful look at the example of a programme in **Appendix B** shows the use of numbers with regard to dates (15th Sept), weight measures (20 kg), containers (bags), objects (8 people) and sizes (hectares). Most of the farmers who could use these, probably had a functional perception of numbers. Others depended on group leaders for interpretation, or to remind them of important dates.

(ii) Appropriate transfer techniques

Adendorff’s theoretical training section was the core of the transfer process where factual information from the developed world was introduced to small-scale farmers. Since the latter were not familiar with the environment from which the information originated, extreme care had to be taken to ensure that the information was offered at a level that they could understand and accept.

Since most of the participants were illiterate, it was important to make each lecture interesting and memorable in some way or other. It was necessary to keep their attention throughout a lecture. Incidentally, all the lecturing aids that Adendorff chose to make his lectures interesting turned out to be the very means with which information is transferred or memorised in a traditional oral culture. These included use of metaphors, storytelling, demonstrations and repetition. The transfer techniques that Adendorff chose and how he utilised them are discussed below.

(a) Metaphors

To get the participants involved, Adendorff often used a tactic of annoying them first by making a ridiculous statement, which they then strongly and loudly opposed! As soon as he got their attention, he put matters in the right context and could get on with the lecture. A good example was when he held a maize plant in front of them and told them he was holding a *musadi* – a woman – in front of them. He knew that a woman was respected very highly by them. Their reaction was to deny it immediately. He then explained to them the maize plant’s connection with food in relation to the woman’s role in the household caring for her family’s food supply. In this way Adendorff used a

metaphor to transfer information at a level they could understand. This practice was followed throughout Phase I of the training programme.

Due to the nature of the contents of the lectures, each one of them had to be prepared well in advance. He had to decide exactly what he wanted to tell them about the practice and how he wanted to present it. The manner in which he presented it was often improvised while addressing the group. From an Information Science point of view this proves what an important role planning, preparation and involvement with the target group play in the successful transfer of information.

Figure 7.2 on the next page is a typical example of the approach followed during lectures.

The example he used is that of a taxi and tools to fix it. These are concepts with which the particular group is familiar. Adendorff skilfully compared these images to natural resources with which they are also familiar. However, now he put them in a context where the group is made aware of a certain responsibility they have toward their maize fields. They have to take care of these if they want to benefit from them. In this way information does not only serve to extend the participants' knowledge base, but also to raise awareness and to change their attitude toward the environment around them.

The information introduced to raise awareness about the absence of contours in maize fields is simultaneously demonstrated with a drawing on a blackboard or flip chart, as depicted in **Figure 7.3** (see on verso of the next page - p.162).

(b) Storytelling

Storytelling is another lecturing aid Adendorff used to transfer information. Storytelling plays an important role in oral cultures where information is transferred from one generation to the next. Also, illiterates' senses for listening and memorising are well developed. (The role of storytelling was covered extensively in chapter 5.)

Adendorff was unaware of these facts. However, in his view, the people he had to train were like children in their reactions to outsiders. That is why he decided to use storytelling as a lecturing aid. A good example is where he explained to a training group – through acting out a story – that the invasion of witch weed in a maize field is like a lion that sneaks up on the goats in the kraal.

A video tape recording, which was studied during the investigation stage for this research, showed how intensely the group observed every movement of the trainer and the interpreter. The moment the "lion" jumped at the "goats" the whole group yelled and screamed – with much laughter afterwards! In this way the information was transferred in a memorable and lively way – to be remembered long afterwards. Thus, through lively storytelling the transferred information was linked to their perception of a lurking danger, but also to their understanding of weeds as a potential danger to their crops.

Soil conservation and natural resources

- 1 The soil is the vehicle on which we travel throughout life's journey.
- 2 The sun, wind, cold and the rain are all the tools with which we must maintain this vehicle.
- 3 By not knowing how to use these tools correctly, we will be doing more harm than good to this vehicle and could prevent it from continuing on its journey.
- 4 This is exactly what is happening to our farming activities at present. It has come to a standstill, simply because we do not know how to utilise our natural resources correctly.

The soil

- 1 The soil is the taxi. It carries us from our day of birth until the day of our death. Not only does it carry us, but also all the other passengers (all inhabitants of this world) with their possessions and belongings.
- 2 This taxi (the earth) can never be replaced!! We only have one and we must look after it and maintain it, otherwise we will be heading for a Big Smash. Especially with the way in which we are heading and the rate at which we are travelling now.
- 3 As a result of lands with no contours or grass strips, waterways that are being ploughed, overgrazing and wrong cultivation methods, we are destroying our soil. Our soil is eroding, lands are becoming smaller as a result of all the gullies. The soil itself is becoming poorer and poorer and, while all this is happening, the people who have to be fed from these lands are increasing daily.
- 4 Just have a look at all the erosion taking place around us every year! What is going to happen to us?
- 5 Draw on a blackboard clearly depicting and describing all the functions of contours, grass strips waterways, storm drains, correcting gully erosion and grazing control.

Figure 7.2 Excerpt from the lecture on soil conservation (Adendorff 1991)

Interestingly, during Phase I of the training programme the farmers responded favourably to storytelling and metaphors. However, once they realised what it was all about and they had come to grips with the new concepts, they got bored with these techniques and asked Adendorff to explain matters in an ordinary way. The fact that

they had the confidence to discuss the matter with him is a good example of the healthy relationship they had with one another. It also indicated that their knowledge base expanded with regard to this particular type of information. A lesson can be learnt from this, namely, that outsiders should to be very careful not to misjudge other people's level of understanding of certain concepts. One cannot assume that storytelling will always be the best technique for transferring information to training groups of people from an oral tradition.

(c) Demonstrations

In order to convey messages in a practical way and also to break the monotony of simply listening to someone talking, Adendorff devised innovative teaching aids to demonstrate important concepts. For example: he used an old plastic detergent container, drew a cloud on the outside and filled it with water to resemble a cloud. Two other containers of different sizes were filled with soil, and the roots of a maize plant were drawn on the outside. These containers were used to demonstrate what happens to soil that was not ploughed deep enough (represented by the smaller container) to absorb the rain, and also that roots cannot penetrate deep enough into soils that were not ploughed deep enough. When the contents of the "cloud" was poured into the larger container (representing soil that was ploughed deep enough) every drop was absorbed. However, when a "cloud" with the same amount of water was poured into the smaller container, half of it spilled over. The message conveyed was that maize fields that are not ploughed deep enough cannot absorb all the water of an average downfall and the run-off can cause soil erosion, which in the end can result in a poor harvest.

Prevention of soil erosion was also demonstrated by drawing maize fields on a blackboard showing how much land should be left unploughed to serve as gullies for run-off.

Figure 7. 3 is an example of a blackboard illustration of gully erosion, as was explained by drawing on the blackboard while lecturing.

Through the various demonstrations used in the theoretical part of the training programme the information transferred orally was visually concretised, which helped to intensify memorisation of outside information.

(d) Repetition

From the discussion above it is evident that key concepts were repeated often in different ways and forms to emphasise important issues during a lecture. This was done on purpose, because the participants could not fall back on written notes and had to memorise the entire course. This worked well, because people originating from oral cultures are used to repetition in an attempt to memorise better.

Some of the trainers reported that they often observed that some of the elderly women in a training group were constantly fidgeting with their blankets' tassels, or grouping sticks or stones in patterns on the ground. They later learnt from the other participants that this was a way to memorise the contents of the day's lecture. So, apart from the

trainer's efforts to support memorisation, the recipients too devised their own means to memorise through association.

(e) Revision

Revision is another form of repetition Adendorff used to enhance memorisation and to embed new concepts. At the beginning of each lecture, the previous lecture was revised. The group was expected to respond to questions based on information introduced in the previous lecture. In this way group participation could be enhanced and all participants could get involved.

A careful look at the way the programme was compiled reveals that much effort had been made to accommodate the target group's circumstances, and to ensure the smooth running of the programme. The above is a good example of this approach, as are the arrangements discussed in the next section.

(iii) Supportive tactics to enhance transfer

Unaware of the impact of information behaviour on the transfer process, Adendorff incidently used appropriate means to transfer information regarding maize growing to his target groups. This could be ascribed to the fact that he knew rural people and their traditional way of doing things so well. He also understood well how the traditional way differed from the Western way of doing things. This is a prerequisite for intermediaries at grassroots level, as discussed in chapter 5.

Apart from his good understanding of his target group, Adendorff realised that his training efforts would be in vain if he did not address many of the underlying factors (identified earlier) that could retard the transfer process. So, throughout his contact with the target group, he addressed these issues in order to break down negative effects.

(a) Building trust

Adendorff did not use training merely to impart information on farming practices. He skilfully applied his knowledge about their way of communicating – that is, metaphorical speech, visual demonstrations, repetition to memorise, et cetera – to approach them at their level of understanding. This he did while continually building trustworthy relationships through acknowledging their way of communication, and praising them for participating by responding to the information he offered.

The training programme also gave the participants the opportunity to test him as trainer for his honesty and sincerity – whether he would live up to the promises he made during the proposal of the implementation plan. This proves that there was continual interaction between the trainer and the participants during the transfer of information. Information transfer should be interactive and need not be a one-way flow as believed in the past.

Adendorff realised that although all the participants agreed to attend the course, they had not yet been convinced of his good intentions, or that the training would change

their lives for the better. Thus, what was required most by the participants at the beginning was respect, hope, goodwill, genuine friendliness and the assurance that they would be able to complete the course and that they would eventually benefit from the training. All these were at the back of his mind when compiling the lectures.

(b) Situation-specific training

The training Adendorff offered was situation specific and not adult education and training in general (where participants had to come to grips with reading and writing). He focussed mainly on basic concepts regarding maize farming for small-scale farmers' particular situation. He started by introducing rather elementary concepts about the maize plant, the soil and weather conditions in their particular area that could influence their maize production – things they already knew but now related to their efforts to grow maize. Once the basic concepts were understood, he slowly progressed to more advanced information regarding different types of maize, types of fertilizer, et cetera.

The training programme was the first direct contact and communication link that Adendorff had with the majority of participants in a group. (Previous contact was with group leaders only.) Thus it was important that he used this opportunity correctly and with great care to ensure success.

From an Information Science point of view we learnt from the training programme that information on a particular topic (in this case maize production) transfers best within a given situation where knowledge of other operations is also required to give impetus to the information of concern, especially where the outside information is dependent on knowledge of related issues assumed to be understood by all. This proves that outside information is not totally value-free, but socially conditioned and shaped by the social structures that apply it, as claimed by Shields and Servaes (1989:49). It therefore seems important that the circumstances of the situation for which the particular type of information is intended, should be considered carefully in advance.

(c) Repackaging of information

A close look at the lecture content in Table 7.4 reveals that the types of information transferred to the small-scale farmers were not limited to maize production only. The structured way in which the training programme was planned required the transfer of information of closely related activities needed to motivate participants to implement the new practices in full. For example: the transferred information would have been of little use if they did not understand how to plough properly, or how to arrange for loans in order to obtain the required inputs such as seed and fertilizer.

A lack of information on these related issues could have resulted in understanding and acceptance of information obtained through training, but not its implementation. In that case the participants would not have been empowered through information. This shows how important it is that the small-scale farmer should also understand how related structures operate to put into perspective the newly obtained information regarding maize production. Therefore, additional information was built into the training programme to teach the participants how related operations integrate with maize growing.

The Phokoane Case is proof that the transfer of information is not necessarily an isolated event. To be effective as a resource, a particular type of information needs to be repackaged together with other types of information required for a specific situation or for particular circumstances. This is even more important when information is transferred from a developed world to a developing community where background information regarding related operations cannot be taken for granted. This can have serious implications for efforts to transfer technology, where a developer wishes to introduce a new product or programme which he or she believes can improve living conditions in a developing community. So, it seems that knowledge of these circumstances and skilful planning of a transfer attempt can add value to information as a resource for development.

(d) Group dynamics

For the transfer of information the involvement of the participants in the training programme through group formation is crucial. Here Adendorff harnessed rural tradition to transfer outside information through channels the rural people are used to, that is, informally, by word of mouth.

From an Information Science point of view, the group committee is a point where the transfer of information to rural communities deviates from the conventional methods used in the developed world. Of interest too is the type of information being exchanged through the group committee, namely, information regarding the communities' livelihood and practical arrangements that could affect their decision making – rather than factual information. So, one can view the group committees as “ad hoc” channels to be used for the transfer of information in the groups' interest only. Factual information regarding maize growing went through the training “channel”, which is discussed below.

(e) Enhancing a sense of time

For various practical reasons, working within certain time limits was important for the programme followed at Phokoane, but it was also important to cultivate a sense of time among the target group, who were used to accomplishing chores at a leisurely pace.

A training session usually did not exceed three hours. Approximately two hours were allocated to lecturing and one hour to general conversation. The contents of the lectures were limited to elementary but essential concepts on a particular topic. It was argued that the manner in which the messages were transferred was more important than the amount of information. Care had to be taken that the groups were not burdened with too many facts, because everything had to be memorised. Depending on circumstances, lectures were given in the morning while the participants were still fresh and also to fit in with daily chores that had to be performed before sundown. The fact that participants had to walk long distances to attend the lectures was also a consideration – public transport was not always available. So, the transfer of information was not a question of imparting information and getting it over and done with.

Time also plays a role where certain activities need to be carried out at set times if transferred information is to be implemented effectively. The first phase of the transfer

strategy – data collection – revealed that the participant groups were used to carrying out activities at a leisurely pace. This could have negative implications for the effective implementation of the newly obtained information on maize growing. So it was important to create a perception of the importance of time in the practice of growing maize. This type of information was conveyed by the introduction of a timetable.

Adendorff drew up a timetable (attached as **Appendix C**) to keep track of his visits and lectures to the different groups. Every group was visited regularly each fortnight. Since the different groups were at different stages in the training programme, he had to prepare his lectures for each group in advance. He also had to keep record of each group's enquiries on certain aspects to keep in touch with them and prove his sincerity.

Each group committee also received a timetable of their visiting dates so that they could arrange with the group in advance and make sure that everyone showed up for their appointment. In this way Adendorff could maintain order and discipline among the groups. At the same time the different groups got used to the idea of working according to a time schedule that coincided with the maize growing cycle. This is a rather subtle way of transferring information without demanding punctuality, which is a prerequisite for this type of practice.

(f) Establishing orderliness

Transferring information through training also requires regular attendance of meetings, especially where outside information is introduced in a sequence of consecutive lectures. Irregular attendance would result in losing track of the whole picture. So regular attendance of lectures became a prerequisite in the Phokoane Case. From the documentation collected, it seems that Adendorff must have been only subconsciously aware of this fact, since he brought up more practical reasons for keeping an attendance register, as recorded below. However, whatever the reason, it was conducive to the effective transfer of information on maize growing.

Adendorff felt strongly about discipline and orderliness. This is one of the reasons why he kept an attendance register for all groups. He argued that a constant attendance figure showed the interest displayed by the participants. To him regular attendance was also an indication of whether the level of presentation was appropriate. The attendance register also helped him to keep track of those participants who could not for some or other reason attend a particular lecture. In such a case arrangements could be made for the participant to catch up by attending the lecture at a neighbouring group's meeting.

Apart from the role played by the timetable and the attendance register in the transfer strategy, they are evidence of contact with the participant groups on a regular basis. Regular contact is of cardinal importance for the effective transfer of information within a specific context where the receiver's knowledge base is built on previous experience to which new concepts are added.

(g) Using interpreters

Another issue that could hamper the transfer of information is understanding the language in which the information is presented. In the case of Phokoane, this issue was considered carefully. When the group was more used to the Afrikaans or English version of a word, it was used instead of the vernacular. However, if the group was more familiar with key concepts in the vernacular – such as “manjor” for fertiliser – that word was used. No lecture was presented without the presence of an interpreter who could translate into the vernacular for those who could not understand the language used.

7.3.4 Step 4: Evaluation

Table 7.5 Evaluation

Participant performance	Programme performance	Achieving change
Oral examination Award ceremony	Oral examination results Farmers' response	Impact of Information Continue training

The fourth and last stage of Adendorff's training programme includes evaluation of the original programme and continuation of training at a more sophisticated level. In terms of the transfer of information, this can be interpreted as evaluating how well the required information was transferred, and what efforts were made by the trainer to motivate the target group to accept and implement the information (or in this case technology) that was offered. The last step in this stage is to continue with training, but now at an advanced level to meet newly developed needs among the participants. Obviously this implies that information was also offered at an advanced level.

The implementation and interaction of the last stage of the training programme is reflected in the discussion of the following issues.

(i) Participant performance

In order to determine how well the information transferred was received and understood, a natural means was to test the participants' basic knowledge of maize growing practices. Participants were not only tested, but their achievements were acknowledge by awarding certificates to those who passed.

(a) Oral examination

Since the majority of participants were illiterate, they had to memorise the entire course. Naturally the testing also had to be done orally. The oral examination took the form of a quiz. A list of 30 questions and answers, which covered all aspects of the training course, were compiled in advance. An example of the original test is attached as **Appendix D**.

If the participants could not remember certain standards and measurements, for example, to plough 250 mm deep, or plant 100 mm apart, they were allowed to show

by hand or any other means that they understood the question and knew what to do, because the participants were dependent on their memories and visualised what they learnt.

As far as test results are concerned, Adendorff viewed 70% as a realistic pass mark. To him such a pass mark meant a 70% improvement to the participants' area and showed how many of the identified deviations could be rectified through training. **Appendix E** is an example of the test results of one of the training groups.

(b) Award ceremony

To motivate participants to take part in the testing procedures, all participants who passed the test qualified for a certificate which was presented at an official award ceremony held for the different training groups. For such an occasion a special programme was arranged, and senior officials from LAC were invited to do the presentations. **Appendix F** is an example of a programme for a graduation ceremony.

The certificates were specially designed for the different training groups. An example of such a certificate is depicted in **Appendix G**. Each group's logo appeared on their certificates, which were held in very high esteem by the different groups. The logo was a form of identification with a particular group and gave group members a sense of pride.

Adendorff reported that the award ceremony was an overwhelming occasion for all participants. For the first time they could show that they could also achieve something if they were properly trained. They were all very proud and the whole ceremony boosted their self-image tremendously. In a certain sense they saw the certificate as a passport to a better living.

The certificates also served another purpose – as an incentive. A participant who received a certificate, immediately qualified for more credit facilities at the cooperative than somebody who did not pass the test or did not attend all the lectures. More credit at the cooperative meant such a person could plan more effectively in advance for the next year's crop. In this way Adendorff used the certificate as an incentive to motivate participants to take part in the FSP as a form of development.

(ii) Programme performance

(a) Oral examination results

The oral examination set for the participants fulfilled a dual role. It also reflected on all aspects of the training programme and could serve as a basis for measuring progress as indicated below:

- **Participant capacity**

By setting a realistic pass mark, the amount of knowledge absorbed by the participants could be assessed.

- **Level of understanding**

A comparison of the different groups' pass marks helped to indicate whether the level of information transferred was above or below the participants' level of comprehension in general.

- **Problems in the programme**

With a comparison of marks allocated for a specific question, problem areas in the training programme could be identified easily.

- **Weak points in the programme**

It helped to determine weak points in the programme, eg what needs had not been addressed. It helped to adapt or improve the training programme and develop a future strategy for Phase I.

- **Strategy for follow-up**

It also enabled the trainer to develop an appropriate strategy for Phase II of the training programme.

- **Value adding**

It added value to the training effort and created a sense of pride in the farmers who passed and now qualified for a certificate.

- **Credit control**

The records kept of each group's results could be used to control credit facilities at the cooperative (as explained before).

(b) Small-scale farmers' response

Apart from the trainer's evaluation of the training programme, observation of the farmers who completed Phase I of the training programme, as well as tape recordings of the views of a number of participants provided the following feedback of the impact that the transfer of information had on the participants and their livelihood:

- Small-scale farmers looked different and were far more confident and had a desire to learn more. They had a totally different approach to agriculture due to their "newly obtained knowledge".
- Farmers became more self-reliant and committed. They were willing to take responsibility for themselves. Farmers became more time oriented. They now realised that there is a definite time for planting, hoeing, fertilising, etcetera. These activities cannot be left until they felt like doing them.

- The new maize growing practice resulted in yields of an average of 26 bags per hectare whereas in the past they had often harvested no more than one bag per hectare.
- The newly obtained knowledge also resulted in a change of perception regarding maize growing. One of the group leaders admitted that he had never realised that small farmers could produce maize of such a high standard. He had firmly believed that commercial farmers applied a “secret medicine” to achieve such high yields.

Another group leader admitted that they had previously accused the whites of taking all the good land and leave them with the rubbish, and that is why they experienced poverty. Now they knew the truth was that they themselves were responsible for their poverty, because they did not know how to farm and there was nothing wrong with the soil. The testimony could be interpreted as the impact a lack of knowledge can have on an entire community, as well as the value of information transferred in a manner that is acceptable to the recipients.

- The first successful harvest also resulted in motivation. Participants wanted further training – also in other skills such as gardening, poultry rearing, sewing and knitting. They argued that this would help to get other means of income and make them less dependent on the risks of agriculture.
- The trained farmers realised that the training resulted in an expansion of their knowledge base, which caused them to experience life differently. One group leader put it in typical metaphorical speech:

[our] eyes have been opened and we are now in the light – day and night.

- There was also a spin-off for farmers who did not take part in the training programme. One respondent confirmed that many of those who had plundered the cooperative’s maize fields in the past, now approached the trained farmers and asked for guidance in maize growing. These were the first signs of a demand for information from the users’ side whereas the training was a deliberate transfer effort from the developer’s side up to this point. From an Information Science point of view this could be interpreted as an **information pull** from the moment the outside knowledge was understood and accepted by the small-scale farmers, whereas previously, prior to understanding the outside information and technology, there had only been an **information push** from the developers' side.

(iii) Achieving the desired change

From the responses of the majority of the trained farmers it seems that the transfer of information caused an expansion of their knowledge base for maize production, which resulted in a social change in their lives. For most of them it meant elimination of hunger, buying clothes, caring for their families, sending kids to school (well fed and well clothed), re-uniting families and a more positive outlook on life in general. This is consolidated in the comments below:

One group leader said that he saw training as the solution to eliminate hunger and poverty and to uplift the individual. Previously he found himself in a situation of no hope where life did not seem worth living. Now he felt like a human being.

An elderly farmer (83 years) commented: *“For the first time in my life I can go to sleep at night without having the fear of waking up hungry.”*

Many of the women farmers commented on the opportunity of having enough to eat, and having money to buy clothes for themselves and their children. In the past children were sent to relatives elsewhere for survival. It sometimes happened that children who were not sent away to relatives were sent to steal food from those in the community who still had something to eat. Now their children could stay at home and families were re-united. One farmer expressed her feelings by saying that to her the training programme meant: *“A life with my family.”*

a) Lasting impact of information

From the above it seems clear that the provision of information in a rather limited section of agriculture had a tremendous impact on those who participated. The impact was not only in the field of agriculture: it was also experienced socially and emotionally, and of course economically. This seems to prove that although information is an intangible resource it is a dynamic force that can bring about change.

Another point to consider here is the level of need to which the information was applied, or which was targeted. If information about other skills was offered at the time the community struggled to combat hunger, the impact would probably have been less spectacular. This has important implications for developers who do not consider a developing community's real needs and who provide aid according to their own view of what will be good for the community. This proves that the application of the right information at the right time for the right circumstances is far more effective than information in its original package as provided by its creator or sender.

(b) Continuation of training

The Phase II training course was based on observations made of the Phase I farmers. It was developed to provide for the farmers who have already achieved Phase I and had a desire for further training. Such farmers experienced at least one growing season with the necessary extension and after-care. They already had the feeling of farming in a more structured manner and also developed a feeling of responsibility toward farming in general.

Evaluation proved to be necessary to determine in what direction the transfer of information should advance. This indeed led to the development of Phase II of the training programme. So too was the response of the target groups who already indicated new needs for more information – not necessarily in the field of agriculture. Thus, a move away from the lowest (physiological) needs level on the Maslow hierarchy.

Adendorff's training programme for the Phokoane people proved to be very successful. The graph in **Appendix H** shows the increase in maize production after training took place (Adendorff 1991). The training programme was later developed into a train-the-trainer programme, which eventually formed the backbone of information transfer activities of LAC's Farmer Support Programme (Adendorff 1991).

From an Information Science point of view, two inferences regarding the LAC's response to the training programme can be made here. Firstly: It seems obvious that the LAC must have been unaware of information as an input resource for development prior to the training programme initiated at Phokoane. Other inputs were indeed provided, such as financial input, farming equipment, and whatever was recognised as input resources under the approach followed at that time. Secondly: it seems that only after the correct method of transfer was used (which was compatible with the oral communication system of the target group), the target group realised their lack of knowledge regarding effective maize growing. Only then the need for information as an input resource emerged. This shows us how dependent information is on the correct transfer techniques to be recognised as a resource for development.

7.4 ADVANTAGES OF INFORMATION FOR SMALL-SCALE FARMERS

The Phokoane Case proved that information is an important resource for development which could bring about change to improve people's livelihoods. The transfer of information regarding maize production through training proved to benefit the participants and their community in various ways. These advantages can be divided into two broad categories, namely those observable within the community and those individually experienced by the participants, as summarised in the block below:

Table 7.6 Advantages of information for small-scale farmers

Advantages visually observed	Advantages internally experienced
<ul style="list-style-type: none"> • Food security • Material possessions • New skills • Improved sense for time and orderliness 	<ul style="list-style-type: none"> • Improved self-image • Accepted self responsibility • Knowledge base enlarged • Improved receptivity • Improved decision-making ability

First of all the aim to provide food security was achieved. People who lived on a sub-subsistence level were able to provide for their own needs as far as maize production is concerned. They could afford more material possessions whereas, previously, their entire meagre income was spent on food consumption.

People's self-image improved. Their attitudes changed. Hostility and bitterness made way for inner peace and harmony among people. They developed a sense of time and orderliness and also learnt to take responsibility for themselves.

The training programme resulted in the extension of the knowledge base of the target group. Participants had a better understanding of maize growing, but also developed

a better understanding of their environment and their responsibility to strive for sustainability as far as soil conservation is concerned. They also learnt about new concepts regarding loans and spending money wisely. They learnt new skills which simplified their method of growing maize and helped them to carry out tasks in a systematic manner.

The training programme helped to develop a receptivity for information regarding maize production which would not have had much meaning for them in the past, for example, brands of seeds, fertilizers or pesticides. They did not only understand, but could take decisions on how and when to apply them. They were no longer dependent on someone knowledgeable to make decisions on their behalf.

The training programme had a multiplier effect. Every successful harvest encouraged more and more small farmers to participate voluntarily – even those who resisted any development efforts in the past. Thus, one successful transfer effort resulted in the natural diffusion of information in the community. People realised how they could utilise communal lands to their own advantage. In this way more than just the target group involved in training, benefited from the successful transfer of information.

7.5 RECURRING PATTERNS

A thorough study of the original training programme, considering the opinions reflected in interviews with different respondents, and studying the video tapes of the different lectures, enabled the investigator to depict recurring patterns which cropped up from time to time through out application of the training programme at Phokoane. These recurring patterns had to do with deliberate efforts to transfer information to a specific target group – the illiterate, adult, small-scale farmer. The recurring patterns (as shown below) could be divided roughly into three groups, that is:

- the deliberate involvement of the *target group* in the transfer process
- *techniques to effectively transfer information* as a resource
- *the role played by the trainer* in the transfer strategy

Table 7.7 Recurring patterns

Target Group Involvement	Information Transfer Techniques	Trainer Involvement
<ul style="list-style-type: none"> • Trust building • Cultural values & norms • Voluntary participation • Women • Group dynamics 	<ul style="list-style-type: none"> • Metaphorical speech • Storytelling • Memory aids • Visual aids • Face-to-face transfer • Indigenous knowledge 	<ul style="list-style-type: none"> • Planning, management, coordination • Situation-specific training • Thorough preparation • Step-by-step approach • Discipline and orderliness • Incentives & rewarding of achievements • Consistent interaction

These patterns will be discussed subsequently.

7.5.1 Target group involvement

A distinctive feature of the information transfer efforts at Phokoane was the involvement of the small-scale farmers. Adendorff took a firm stand that his training programme should be people centred. He was convinced that the small-scale farmers need to participate in programmes which were aimed at their upliftment. This deliberate involvement of the target group manifested right through the training programme and helped to create a favourable environment conducive to the acceptance of outside information.

Attempts which focused on the involvement of the target group were the following:

(i) Trust building

Realisation of the poor self-image of participants, their distrust and aggression toward outsiders compelled Adendorff to build interrelationships between the target group and himself with all means at his disposal. This was done by showing empathy for them, but at the same time encouraging them to take advantage of the positive side of their lives, their children, ability to sing, possession of land, et cetera. He emphasised from time to time that the "school" was only to the best of their interests – they would not be penalised if they did not perform well, or if they could not read or write. No one would take their lands or their crops from them. The harvest belonged to them and would contribute to their personal food security. Once there was a trustworthy relationship between Adendorff and the participants, they were prepared to take his word – thus willing to accept outside information. So, it seemed that the trust building effort was conducive to acceptance of outside information from an outsider as far as the participants were concerned.

(ii) Acknowledgement of cultural values and norms

According to Wigglesworth (cited in Madu 1992) cultural differences are seldom integrated in training programmes for developing communities. He suggests that the cultural value system of rural communities be given adequate consideration in the training process. Acknowledging cultural values and norms is exactly what Adendorff did in his training programme. For example, religion is held in very high esteem among people of rural communities in this particular area. Therefore, no lecture was presented unless one of the participants opened with prayer – usually said by a father figure who was respected by the group. Often when there was some sort of conflict among the group, singing (another cultural tradition) was used to defuse the situation.

Another example of integrating cultural norms and values was the way in which the training programme was presented. Lectures were usually given in a venue chosen by the group. All lectures were presented in story form in an idiom they were used to. The concept of credit facilities, and how one should safely use them was introduced in a way that would make sense to them. For example: money borrowed that should be repaid with interest was introduced as a cow that should be returned with a calf! The danger of unpaid debts was strictly monitored so as not to let them run into problems they were not used to, or could not handle.

Despite demands for mechanical harvesting, Adendorff insisted that children as well as men working elsewhere, should take part in harvesting operations. In this way he felt family ties could be restored and children as well as the parents could share in their achievements.

Although cultural norms and values were acknowledged and respected, the groups sometimes confronted him with traditional practices which resulted in unsustainability of the environment – for example, ploughing practices that caused soil erosion. When they referred to their forefathers who would not approve of a new practice, he left it to them to decide which way to go but warned that they should be prepared to take the consequences.

(iii) Voluntary participation

No one was ever forced to attend the lectures on maize growing. Only individuals who came out of their own free will, were accepted for training. However, once they volunteered to be trained they were expected to comply with the requirements and discipline of the trainer.

The trainer also left the choice of venue to the participants. Training mostly took place in the open under a tree, near a school building or even in a donga – considering the weather conditions!

(iv) Involvement of women

A typical phenomenon of rural communities is that an increasing number of extended families are headed by women (Nwagha 1992 ; Dixon et al. 1994). This could probably be ascribed to the fact that many of the men migrated to the big cities in search of better paid labour. Adendorff experienced a similar situation at Phokoane. He felt that it would only be fair that women should also have a say in farming matters. For this reason one of his requirements with the election of group committees was that two of the five members should be women. Many of the women in the training groups turned out to be some of the better farmers.

(v) Group dynamics

As mentioned before, to act within a group is typical of rural people. Adendorff used this to his advantage in training the small farmers in effective maize production. In a group situation people could share their views or uncertainties, which could then be discussed and sorted out. Apart from the advantages for the group, it was more time and cost effective for the trainer. Participants could be organised into groups for training. There was much better control over a group's lecture attendance or progress than there would have been in the case of individuals. It was also easier to pass on messages with regard to farming activities to groups than to individuals, and also to visit groups instead of individuals.

An advantage of group dynamics (such as group committees) was that it enabled Adendorff and his co-trainers to attend to a much larger section of the smallholder

communities. Through group dynamics and good management it was possible for about five trainers to attend to 7000 participants from the inception of the training programme.

Adendorff realised that training of small farmers in groups would be far more effective than the training of individuals. Rural people were familiar with communal activities conducted under the authority of a headman. Individuals came to him and asked to be taught to grow maize that gave the same yields as those who had already undergone training. (They were referred by one of the first eight participants – communication by word of mouth.) He also found that those who took the liberty to come, were commissioned by a group of people who were interested. Such persons were natural leaders chosen by their own people and not allocated to a group by an outsider.

Natural leaders simplified matters, because it was easier to reach consent with a leader of a group before starting with the group. Group leaders were also respected and followed by the group. The general credibility of a leader among the group enabled the trainer to convey his message to the group. If the group leader trusted the trainer, he or she would pass on the message to the group. So, the trainer could use the leaders as intermediaries.

It was the responsibility of the group leaders to register their members at the local cooperative. In this way there was some control over who the members of the different groups were, and also how many participants there were for whom the cooperative had to arrange for inputs such as seed, fertiliser, pesticides and bags.

7.5.2 Techniques to transfer information

The techniques used by Adendorff to transfer information proved to suit the information usage behaviour of the rural people at Phokoane well. Most participants originated from the oral tradition. From the discussions below it will become evident that all the techniques he used to transfer outside information are typical of the communication techniques used in a predominantly oral culture. Most of these techniques focused on the users' natural senses such as listening, repetition for memorising, demonstrations for seeing and doing, as well as the incorporation of their indigenous knowledge to hook on new information.

(i) Metaphorical speech

Metaphorical speech was one of the main tactics to simplify concepts regarding maize growing and to approach the group at their level of understanding and also their way of transferring messages. It could be viewed as a form of association where new perceptions are related to existing concepts in the receiver's memory.

(ii) Storytelling

Metaphorical speech was applied in every lecture as a transfer technique. For example: the maize plant was compared to a *musadi* (woman), the soil with a taxi, the witch weed as the lion that sneaks up to the goats in the kraal (maize field), the fertilizer as colostrum needed for growth of the new born calf (maize plants).

(iii) Memory aids

Singing in the fields, repetition of the previous lectures, comparisons between the maize plant and the musadi, or colostrum for calves and fertilizer for seedlings.

(iv) Visual aids

Illustrations on containers to represent clouds and containers with soil to represent the maize field. Showing how deep, or how far apart to plant seeds.

(v) Face-to-face transfer

An outstanding feature of the training programme was that the information was transferred informally face-to-face between the trainer (sender) and the receivers. If something was unclear, there was opportunity for explanations or demonstrations of concepts. This was an ideal situation for transferring information to the particular target group where usually the members were not used to reading to obtain the information they needed. The demonstrations helped to concretise the functioning of techniques or processes, and to support memory.

(vi) Utilising indigenous knowledge

Adendorff used the people's indigenous knowledge of the maize plant, climatic patterns, the soil, et cetera, very successfully in his training programme. He used it as a point of departure to add on "new" knowledge and to show them how they could use that which they already knew more efficiently.

By using the target group's indigenous knowledge of maize farming this transfer technique compares well with the latest trend to integrate indigenous knowledge in the transfer of information to developing communities as recognised by Havelock (1986).

7.5.3 Involvement of the trainer in the transfer strategy

The Phokoane case showed what an important role the trainer has to play in the transfer of information from the developed world to a developing community. The trainer proved to be a crucial link in the transfer process. The particular circumstances in the developing community required a change from the conventional approach of dissemination to an unknown receiver – who could pick from the information made available according to his or her own choice – to a deliberate transfer where the trainer had the responsibility of interpreting the available information on behalf of the receiver.

Apart from the trainer's interpretive function, the discussion of arrangements below is also proof that the trainer created a favourable environment in which the required information could be transferred. It seems that the success of the transfer strategy applied in the case of Phokoane depended to a large extent on the trainer's ability to interact with the receiver groups, and his ability to plan, manage and coordinate the transfer strategy. In this regard the whole transfer process became much more personal than in the case of the conventional transfer process. Apparently this is because the

trainer could not assume that the receivers would understand the information, or know how, where and when to apply it.

The following is evidence of Adendorff's efforts to conduct a transfer strategy within the environment of a rural community with an oral tradition.

(i) Planning, management and coordination of transfer activities

An outstanding feature of the training programme was the consecutive steps followed, and also the coordination and management of other support services necessary to streamline the transfer process. Apart from the well-organised training programme, arrangements regarding the time and venues for the groups' lectures were also well planned and managed to accommodate participants – who had to travel on foot to attend meetings. For the trainers too – who had to present lectures at more than one venue on one day, thorough planning proved to be more sensible.

The transfer of information regarding ploughing, hoeing, fertilizing or pest control was planned ahead according to the consecutive stages of the maize growing season. The lectures for the different groups – which took place on different days – also needed to be coordinated to avoid duplication. Without these arrangements the trainer would encounter numerous breakdowns in the transfer process. This proves what an important role planning, management and coordination of transfer activities play in the transfer process.

(ii) Situation-specific training

The goal of the training programme was to introduce the participants to a specific practice – that of growing maize for food security and not for commercial production. The transfer of information was limited to comply with the specific needs and situation of the participants and not extensive training in the particular practice. The training was also at a level and in a manner acceptable to the group(s). In this way the outside information had a stronger impact, it enhanced receptivity while the participants were not overwhelmed with unnecessary detail.

(iii) Thorough preparation

Thorough preparation proved to have contributed to the success of the information transfer activities in the Phokoane Case. The manner in which each lecture was compiled, the arrangements for seed, fertilizer, arrangements with tractor services for ploughing et cetera are all evident of thorough preparation to ensure a smooth operation of the training project and thus the transfer process. Thorough preparation in itself contributed to the trainer's credibility among the participants.

Thorough preparation of each lecture was essential for different reasons. First of all, the different groups were at different levels of the training programme. So the trainer had to keep track of each group's progress. Secondly, each group had its own "personality". What attracted the attention of one group, might not get any response from another group. He tried to accommodate every group's "personality" as far as

possible in the presentation of lectures. This also shows how important intimate knowledge of the groups is in the transfer of information in a face-to-face situation.

Since Adendorff had to explain every concept very clearly and at an elementary level, he used examples from everyday life which they were used to, and simultaneously integrated a lot of their indigenous knowledge in his presentations. This approach called for careful preparation. Should he use the wrong metaphor, or be insensitive to their values and norms, he could easily annoy them or lose their attention. The preparation of lessons was time consuming and energy sapping, but in the end it was worth all the effort.

(iv) Step-by-step approach

In conjunction with the thorough preparation, all the factual information regarding maize growing was transferred according to a step-by-step approach. Since the participants had virtually no knowledge of proper cultivation methods and were mostly elderly people and illiterate, the transfer of information had to be done step-by-step so that they could come to grips with new concepts. For the same reason the basic facts on maize production were broken down into consecutive lectures. Each lecture built on the contents of the previous one. The main points of the previous lecture were always emphasised at the start of the next lecture.

The step-by-step approach was even taken a step further during field visits where practical problems regarding a particular issue – such as weeds or pests – were identified and discussed on a one-to-one basis. This implied that the participants could use the trainer as a sounding board to evaluate their own understanding, and they could get immediate feedback.

(v) Discipline and orderliness

Discipline and orderliness was present in all transfer activities for practical reasons. Once new information was introduced, arrangements for related activities such as ploughing services or provision of seed and fertiliser had to be in place to enhance the process of implementation – since implementation was still part of the transfer process.

Discipline and orderliness in the transfer process was further enhanced by keeping an attendance register for all participant groups. Adendorff also prepared timetables for various activities to be carried out during the growing season. These were given to the leaders of the different groups to warn the members of the groups ahead of time. In this way he could keep track of the various groups' progress, and avoid some groups missing out on the contents of a particular lecture, or the same lecture being repeated for a second time.

(vi) Incentives and rewarding achievements

Incentives and rewarding of achievements were used in the transfer process to motivate participants to implement the newly obtained information and also to show concrete evidence of their intellectual gain. Adendorff found that rewarding any form

of achievement meant a lot to the participants. He used the award ceremony and certificates to enhance their self-respect and self-image. The participants interpreted this gesture as an acknowledgement of their being somebody.

Those who completed the programme and passed the oral test obtained a certificate. During the contest whenever someone answered a question correctly, he or she was praised. No matter how small the contribution, it was always acknowledged. This enhanced commitment on the part of the participants.

Although the rewards were meant for accepting outside information, they manifested in a setting more acceptable to the particular circumstances. For example: a participant who received a certificate qualified for more credit facilities at the cooperative than those who did not pass the test or attended lectures irregularly. More credit at the cooperative meant that such a person could plan effectively in advance for the next year's crop. In this way participants were motivated to take part in the training programme they volunteered for.

It is well known that the people of rural communities are fond of singing. Adendorff made a point of showing his admiration for the participants' talent of singing while working in the fields or while carrying out daily chores. This too was a form of reward. After the harvest too he visited all of them and complimented them on their yields and shared in their pride and joy. These gestures were highly regarded by all participants. So it seems that different incentives and rewards were applied as particular situations occurred and they played an important role in smoothing the field for the transfer process among the small farmers. From an Information Science point of view, incentives and acknowledgement of achievements at the right time can be conducive to the transfer of information.

(vii) Consistent interaction with target groups

The consistent presence of the trainer and his personal interest in the groups' progress were evident in all phases of the training programme. This helped to build trust. More so than with trainers who would turn up from time to time to impart information and then disappear again for someone else to come and introduce information on other issues which do not always make sense to the receivers. The trainer who started the transfer process regarding maize growing took it through all its phases up to a point where the target group could form a picture and the whole issue was put into perspective.

7.5.4 Multiplying effect of information

The multiplying effect of information was evident in the fact that more and more small farmers volunteered the moment they observed the bigger yields of their neighbours, and also when they realised that the good harvests enabled the participants to afford more material possessions than before.

The achievements resulting from the transfer of technical information also brought a change in attitude. Aggression and resistance gave way to self-confidence and more tolerance of one another. In the Phokoane Case those who resisted development

initially by plundering the Cooperation's crops, later came to the first participants and asked to be trained to grow maize so that they too could benefit from the results. Those participants who experienced the initial success, asked to be trained in all kinds of skills.

The recurring patterns discussed above, can be seen as a "tool kit" from which Adendorff pulled techniques and tactics to ensure that information was transferred effectively. How and when to apply them remains a challenge for any facilitator who wishes to participate in such a transfer effort.

7.6 INFORMATION ATTRIBUTES EFFECTIVE DURING TRANSFER PROCESS

The Phokoane Case provided us with practical examples of a number of attributes of information that prove suitable for information transfer to rural communities. They prove why information could be viewed as an important resource for development, but also that information has little value unless the target group understands how to apply it to their advantage. A thorough scrutiny of the Phokoane Case enabled us to identify a number of the attributes of information which distinguish it from other input resources needed for the development of rural agriculture. A culmination of these attributes (which are mainly intangible) made by Eaton and Bawden (1991), was discussed in chapter 4 of this investigation. The following discussion reveals how these attributes manifested in the development of small-scale farmers at Phokoane:

7.6.1 Value of information

Eaton and Bawden (1991) suggest that, unlike other tangible resources, information is not readily quantifiable. Its value depends on its context and its use by particular users on particular occasions. The Phokoane Case is proof of this statement, considering that information regarding maize growing was offered at a time when the participants were starving, had a poor self-image and distrusted outsiders. If at that stage, for example, information on how to read or write, or how to prevent tuberculosis would have been offered, it probably would have been accepted with less enthusiasm, because it did not address their acute problem – that of hunger. Thus the timing for the transfer of this particular type of information was right for the prevailing circumstances. The information regarding maize growing was also offered at a level and in a manner the receivers could relate to. In the Phokoane Case information on maize growing came at the right time, and its successful results gave rise to a demand for more information on other issues such as training in reading and writing skills and other occupations. So it seems that the right timing and the particular circumstances brought meaning to the information provided which would have had less value for the receivers otherwise.

The training programme also resulted in opportunities for tractor services, demand for more input facilities such as seed, fertilizer and pesticides. So, it seems that in the case of Phokoane, the right information at the right time brought the multiplier effect into play.

7.6.2 Multiplicative quality of information

An outstanding difference between information and more tangible resources is that it is not lost once it is given to others. Sharing it almost always causes it to increase

(Eaton and Bawden 1991). The fact that more and more small-scale farmers volunteered to participate in the training programme after the initial successes of the first participants, is evident of the multiplicative quality of information. The nonparticipating small-scale farmers who saw the results of training in their neighbours' maize fields also wanted to benefit from this new resource obtained through training. In this case training is the variable that made information a useful resource.

The fact that so many of the participants were inspired to learn new skills after their initial successes, is also proof of the multiplier effect of information as a resource. In fact this demonstrates that information can be a dynamic force in development.

7.6.3 Dynamics of information

The Phokoane Case proved that information is a dynamic force which can bring about change in a person's understanding. Although the participating farmers were unaware that it was their newly obtained information that gave rise to their successful yields, these successes motivated them to express their desire to practise their newly obtained method of maize growing and to learn other skills too, such as reading and writing. It seems evident that information as an intangible resource caused certain responses in those small farmers who experienced it. In the Phokoane Case the responses were conducive to development.

The outside information obtained through the training programme indeed extended and altered the participants' store of knowledge – not only as far as maize growing is concerned. It also widened their horizons and increased their perceptions. This was confirmed by many of the participants who were interviewed as proved by the following quote: *[our] eyes have been opened and we are now in the light - day and night*

Apart from the cognitive changes brought about among participants, the newly obtained information also caused a change in attitude. Adendorff (1991) observed that the participants had more self-confidence, there was a willingness among participants to take responsibility for themselves, and their successful harvest motivated them to practise their newly obtained techniques once again in the next growing season.

7.6.4 Interdependence of information

The Phokoane Case proved that the value of information depends upon the context in which it manifests itself, as well as its use by particular users within specific situations. Proof of this was identified in the following incidents in the Phokoane Case:

- **Dependence on other input resources**

The fact that Adendorff had to arrange for inputs such as seed, fertilizer, weedkillers, ploughing and tractor services, is proof of the mutual dependence of information on other resources for development. If the other resources were not available, the newly obtained information might have served to broaden the individual or group's knowledge base regarding maize growing, but it is doubtful whether they would have benefited from it if (a) they could not obtain tractor

services in time to plough, (b) fertilizer was not available when needed, (c) they did not have the fiscal means to buy seed or obtain the mentioned services to get the ball rolling. The opposite is also true. All the other resources could have been available, but would have proved less advantageous without knowing or understanding how to apply them effectively.

- **Medium dependence**

Apart from information's dependency on other resources for development, the Phokoane Case proved that information is also dependent on the users' trust in its effect and the users' understanding or preference for the medium through which information is conveyed. So, it seems that information is also dependent on less tangible dimensions such as trust, personal preferences and understanding.

- **Intermediary reliant**

The Phokoane Case also showed to what extent information is dependent on culture and medium. The contents of the training programme had to be transferred face-to-face and by word of mouth in order to be acceptable for the participants who were unfamiliar with information in a written or printed format. In addition, they did not have enough background knowledge against which to judge any outside information offered in written or printed format in isolation – that is, without the help of an intermediary to explain or interpret the contents.

Due to the participants' lack of knowledge of modern farming practices, information regarding maize production was also dependent on training to be of any value to the target group. Without the particular manner in which the training was done (metaphorical speech, comparisons, acting, demonstrations, etc) this particular type of information would have had less value for the participants. So, what actually happened here was that Adendorff took outside information and applied to it linking mechanisms (metaphorical speech, etc) that were used in the indigenous information system, to make it acceptable to users from the oral tradition. In effect he rerouted information from the modern information system to the indigenous information system.

- **Situation specific**

All this proved that information as a resource for development is dependent on a specific situation to warrant its usefulness to the potential user(s). The well-known cliché "the right information at the right time to the right people at the right level", applies here.

7.7 REASONS WHY THE PHOKOANE CASE IS VIEWED AS SUCCESSFUL

Since a qualitative approach is followed in this investigation, we can raise questions about the validity of the successfulness of the outcome of the transfer strategy. How can we prove that the transfer strategy followed by Adendorff was indeed successful?

Firstly evidence to prove the validity of this statement can be found in the effect the transfer endeavour had on the small-scale farmers as well as the impact on the rural agriculture of the particular area. The impact is visualised according to two categories in the box below:

Table 7.8 Proof of success of information transfer

Small farmers	Rural agriculture
<ul style="list-style-type: none"> • Increase in self-reliance • Change in perception • Extension of knowledge base • Develop motivation • Acceptance of responsibility • Increase buying power • Send kids to school • Re-uniting of families 	<ul style="list-style-type: none"> • Increase in yields • Improved food security • Increase in voluntary participants • LAC incorporated the strategy in its extension service to small-scale farmers

Secondly, The initial training programme proved to be so successful that the LAC adopted it for extension services within its jurisdiction (personal communication with LAC official 1996). Thirdly, a number of research projects were carried out at Phokoane to study various aspects of the approach followed by Adendorff, such as the research projects reported by Kirsten, Sartorius van Bach and Van Zyl (1995) and also that of Fischer and Vink (1995). Apart from invitations to address various farmers associations and agricultural societies on the topic, Adendorff also confirmed that he had received visits from representatives from international institutions such as the World Bank and the BBC who were interested to learn more about his approach (personal communication 1996).

The initial success of the Phokoane case still has a ripple effect in the sense that Adendorff is still approached to consult development agencies on projects carried out in different rural communities such as Thabina in the Northern Province and Ndonga in the Eastern Cape (personally visited by this investigator in 1998).

7.8 SUMMARY AND CONCLUSION

In this chapter the consecutive steps of a successful training programme have been discussed and analysed from an information transfer point of view. The in-depth analysis revealed a number of insights regarding spanning of boundaries between an information system of the developed world and the indigenous information system used by people originating from an oral culture. It seems that the success of the transfer action can be attributed to the following:

- utilisation of transfer techniques from the indigenous information system to transfer information originating from the developed world
- identifying and addressing negative attitudes and perceptions, which could retard the transfer process, in the target group

- considering the target group's existing state of knowledge
- good planning and coordination with related services and activities of subsystems of the transfer system
- participation of the target group in the transfer process

The outcome of the analysis made in this chapter proved why the transfer of information in the Phokoane Case could be viewed as successful, namely, that it brought about change with regard to the participants' life style, as well as in their maize production practices.

The investigation of the Phokoane case also revealed which attributes of information were most suitable in a developing situation. These correlate well with the comparison of attributes which was carried out in chapter 4.

From an Information Science point of view, Adendorff's training programme represents a model for the transfer of information, applicable to the interface between the development agent and the target group in the rural community. This training model is similar to that of Rogers' route to change, discussed in the previous chapter. The first three sections of the training programme (observation, survey and needs analysis) make up the information collection stage. This stage compares favourably with the first step of Rogers' route-to-change model – the existing state. The following steps (approach, action plan and plan for implementation) make up the next stage where contact is made with the target group who are made aware of the intended training programme. This stage compares favourably with Rogers' awareness raising step. The training stage compares well with the route-to-change step for development of knowledge, skills and understanding. Unlike the route to change, there is also an evaluation step, which is essential to determine if the transferred information has had the desired effect on the target group. The final step is the achievement of the desired change where the target group applies the transferred information as a routine practice.

However, a remarkable distinction of Adendorff's approach is his ability to utilise techniques deriving from the indigenous information resource system to introduce information derived from the modern information resource system.

Adendorff's approach offers an opportunity to develop a new theory on how to bridge the gap between the developed world and the developing world regarding information transfer. It also sheds light on how to add value to information as a resource for development. These will be discussed in the synthesis in chapter 8.

CHAPTER 8

TRANSFER OF AGRICULTURAL INFORMATION TO RURAL COMMUNITIES

8.1 INTRODUCTION

The discussion so far, regarding the transfer of agricultural information to rural communities, as well as the analysis of the Phokoane Case, has produced valuable insights, enabling us to visualise how information could be transferred more effectively to rural areas. The investigation has also provided insight and information that could be put to good use in planning a strategy for the transfer of information to rural communities. Therefore, the purpose of this chapter is to

- develop a model for the transfer of information to rural communities
- identify variables to be considered for a strategy for the transfer of agricultural information to rural communities
- reflect on the role of the facilitator in the information transfer process

8.2 MODEL FOR INFORMATION TRANSFER TO RURAL COMMUNITIES

The Phokoane Case, which was about the transfer of agricultural information to small-scale farmers (in this case, illiterate adults), provided us with the opportunity to observe the complexities of the transfer process between industrialised countries and target groups in rural communities where the oral tradition still prevails. This generalisation can be made in terms of the fact that the literature (discussed in chapter 3) reveals that rural communities in most developing countries have an element of illiterate adults who are unfamiliar with outside information from industrialised countries. In order to meet their information needs, they are

- dependent on the information usage behaviour present in oral cultures
- dependent on their indigenous store of knowledge
- exposed to outside information, but have difficulty in either accessing or exploiting it to their advantage due to lack of an effective boundary-spanning mechanism

Unless they are deliberately introduced to outside information, it will have no meaning to them and they will be unable to benefit from it. It was exactly this type of problem that was addressed in the Phokoane Case.

We could view the training programme of the Phokoane Case as an act of deliberate transfer of information similar to “technology push”, which shows us what can be done so that illiterate people can benefit from the information at their disposal. In terms of development it was a planned intervention, because there was no demand from the target group due to their ignorance of information as a resource.

8.2.1 Creating a new model

Insight gained from the literature study for this investigation, as well as the Phokoane Case as a planned intervention, offer the opportunity to develop a transfer strategy where a number of variables have to be considered, such as the information usage behaviour of the target group, environmental and socio-economic conditions, local policies, infrastructure and the contributions of different stakeholders involved in activities related to the issue of concern (ie maize production).

It seems that much of the success of the transfer process in the Phokoane Case could be ascribed to the systematic manner in which it was approached and the different variables that were accommodated. Meticulous planning, coordination and good management, target group participation and integration of indigenous knowledge seem to have been prerequisites to keep the transfer process on track. In other words, all these variables became building blocks for the transfer route between the information resource and the target groups as recipients.

Probably the most important lesson learned from the Phokoane Case was the application of transfer mechanisms, typical of the indigenous knowledge system, to outside information from the information resource system of the developed world. Thus, Adendorff utilised elements of both the indigenous information resource system and the required information from the information resource system of the developed world. This actually resulted in the merging of the two systems to serve the particular type of user group. We can visualise the transfer process for rural communities as two feeder roads coming from different directions which merge to become the main road, which then carries the required information to the target groups where it is applied in the consecutive steps of the transfer programme. The main road also provides the opportunity to convey feedback from the target group. This then forms the basis for a model of the information transfer process to rural communities as depicted in **Figure 8.1** (see verso of previous page).

Considering the fact that the transfer mechanisms of the indigenous knowledge system require human involvement, it seems natural that the presence of an intermediary will always be required for the deliberate transfer of information to rural communities – especially for technical types of information. This model is of importance to the very last link or interface between the development agent and the target group at grassroots level.

8.2.2 Explanation of the Merger Model

In this section, the meaning of the different components of the model will be explained in more detail. These components include: the information systems from which the feeder roads originate, the merging point from where the facilitator controls the transfer process, the composition of the main road which represents the transfer strategy, the continuous interaction of facilitation and feedback between the facilitator and the participants, which should take place during all the steps of the transfer strategy, and finally the desired change regarding increase of knowledge, change in attitude toward outside information, establishing food security and improvement of living conditions.

(i) Feeder roads

The two feeder roads referred to in the model represent channels to access components needed from the two information resource systems to which the target groups in rural communities are exposed, or from which information can be drawn to apply in practice in order to solve problems. These two systems – the indigenous knowledge system of the oral tradition and the modern information resource system of the developed world – are of course incompatible. In order to make the two systems more compatible, human intervention is required in the form of an intermediary or facilitator who is familiar with both systems, and who should know how to access both systems via the feeder roads. Thus, at the point of merging the transfer process requires human intervention. The intermediary or facilitator takes on the responsibility of the merger.

From this point onward the transfer process requires deliberate efforts to select only appropriate information from the resource systems, as well as selection of transfer mechanisms most suitable for a particular situation. The success of the transfer process to a large extent depends on the manner in which this merging function will be carried out. Without a thorough knowledge of the functioning of the two information resource systems, management of the transfer operations, the target groups' requirements and conditions of the environments in which they operate, transfer of information to rural communities might be less successful.

(ii) Main road

The main road represents the transfer strategy to be followed by the intermediary or facilitator. This includes, inter alia, a survey of the existing state, a situation analysis, decision on an approach and plan of action to follow, implementation of the action plan, transfer through training, testing, evaluation and continuation after the desired change has been achieved. Since the target group participates in the transfer process, their interpretation, experience, complaints or needs can be referred back along this road to the intermediary, who can decide how to adapt the transfer strategy to accommodate the target group. So, the model also allows interaction.

(iii) Consecutive steps of the transfer strategy

The main road component of the Merger Model resembles the consecutive steps of the strategy the intermediary or facilitator needs to develop for the transfer of information for a particular situation. The consecutive steps discussed below were inspired by insights obtained from the step-by-step approach followed by Adendorff in the Phokoane Case, as well as the consecutive steps reflected in Alan Rogers' route to change. These steps include the following:

(a) Observing the existing state

Lessons learnt from the Phokoane Case and the literature show how important it is for any transfer strategy to determine the existing state as a point of departure. Determining the existing state can be done by carrying out a survey and through observation. Data obtained are then analysed and the results will give an indication of the existing state.

Adendorff's survey provided us information-wise with the type of issues in the existing state of the small-scale farmers that one can also expect to find among other target groups in a rural community. The issues of the existing state were, inter alia, a lack of knowledge among the small-scale farmers with regard to an effective maize growing practice (eg how deep to plant, application of fertilizer and timely weeding). The small-scale farmers were also unable to relate existing chunks of knowledge to apply to a specific situation. For example: the appearance of beetles at certain times in the maize fields and holes appearing in leaves were not related to each other and, therefore, not understood as a pest that could destroy their crops. There was a general lack of familiarity with modern farming practices, inputs and financing. People were mostly illiterate and used to a verbal and visual exchange of information. In a certain sense the small-scale farmers' existing state enables us to establish an information profile that could help us to design a more effective transfer strategy.

Understanding circumstances of the existing state also provides an opportunity to help participants increase their awareness of their situation and to develop their concern for change in their social, economic, cultural and political circumstances.

(b) Situation analysis and awareness raising

Awareness raising is the step where the target group is made aware of their needs and problems and possible solutions. In the Adendorff design this was also the step that followed the existing state as suggested by Rogers' route to change. However, the Phokoane Case revealed that awareness raising did not take place as an isolated incident. Initially, the very first participants were made aware of better maize growing practices by following the suggested instructions. Their successes raised awareness among neighbouring farmers who were eager to obtain similar results.

According to Rogers (1992:133) awareness raising is more than informing the target group. It is also listening to the participants while discussing with them the concerns of the intended programme – a question of sharing perceptions. This is exactly what happened during the survey conducted. to obtain background information on the target groups. The survey was actually a sharing of experience where the participants revealed their way of living to the investigator. In the process the participants were able to reassess the value they placed on various elements within their world of reality. Adendorff as investigator aptly shared his concern with them, by explaining that he needed certain information from them in order to build the road on which they must walk in future.

However, awareness of various aspects of maize growing developed gradually as the training programme advanced. This is indeed what Rogers (1992:135) said about awareness being a continuing process, a constant reinterpretation of reality in the light of fresh perceptions, fresh experiences and fresh insights.

Awareness enabled participants to concretise their needs, wants and desires. It also motivated them to take action by volunteering to take part in the training programme.

The awareness raising step is essentially an exchange of information between the target group and the developer who needs to act upon the information and also become aware of detail that could result in the adaptation of his or her plan of action. It seems obvious that both the developer and the target group need to become aware of circumstances. It is indeed a process of sharing different ways of seeing ourselves and our world (Rogers 1992:135).

In light of the above, it seems natural that awareness raising should be one of the first steps of a transfer programme for development purposes, because the transfer of information needs to be based on the target group's sense of awareness.

(c) Plan of action

The plan of action includes a number of decisions that need to be taken regarding the approach that is to be followed (eg involvement of the target group, nature of transfer activities, implementation, evaluation and in what form the transfer activities should be continued).

Apart from the approach to be followed, the plan of action also includes the consecutive steps to be followed during the actual transfer of information (eg training sessions in which the actual information is transferred, dates, venues and implementation).

Adendorff's training programme was the stage where the transfer of information was put into action. In effect it was a development of knowledge, skills and understanding. The action stage comprises a set of consecutive steps. First the transfer process was planned and designed and shared with the participants. The next step was to initiate the training programme by setting dates and venues for the consecutive lectures, which were followed by the implementation of the actual activities of ploughing, planting, hoeing, et cetera. This allowed the participants to act on what they had learnt. Simultaneously, regular field visits were carried out to transfer additional practical information to reinforce perceptions that were transferred during the lecturing sessions. This is proof of a personal experience of the transfer process in the fullest sense of the word and not merely the imparting of information through talking. Here the transfer of information became an action programme where the participants were involved in their own development.

(d) Evaluation

Evaluation is necessary to determine whether adaptation of the original plan is necessary. Without evaluation, a developer can easily follow a strategy based on assumptions which can in the end prove to be costly if not accepted by the target group.

Adendorff's training programme is evidence of how important it is to determine the efficiency of a chosen strategy in any transfer programme. Adaptation to local conditions was viewed necessary to ensure acceptance of information by the target groups. This step is rather important for information transfer in general, since adaptation to achieve acceptance adds value to information as a resource for development.

(e) Continuation to achieve the desired change

Evaluation of the transfer strategy determines how the transfer activities should be continued to achieve the desired results. That is, the acceptance and implementation of newly introduced information.

In the Phokoane Case, the desired change that was brought about by the transfer of information could only be established after the regular implementation of the new practice for a number of consecutive seasons. However, as in the case of development, information transfer is a continuing process. Phase II of the training programme at Phokoane is proof of this. After the initial success of Phase I of the training programme, many of the small-scale farmers had a desire to obtain information on more advanced practices where knowledge of fertilizer, pesticides and advanced planning and marketing was required. As the desired change was achieved, it gave rise to a demand for more information on other types of skills. This could be viewed as the multiplier effect of information.

The consecutive steps of Adendorff's training programme seem to be the essential boundary spanners between the developer – originating from the developed world – and the target group in the developing community. This is because they help to bridge the gap in understanding through situation-specific training, and also acknowledge the receiver of the information in his or her entirety. Differences in circumstances between the two worlds force this last link in the transfer process to be face-to-face, and in an oral medium. This is evidence of the difference between the transfer of information to rural communities and conventional transfer practices in a developed set up. In the case of Phokoane the training programme was not only a boundary spanner, but became the point where two information transfer systems merged. However, it is significant that this merging was not possible without planned human intervention. It therefore seems that the information transfer process between the developed world and developing communities needs a switch over, which requires human intervention.

8.3 VARIABLES TO BE CONSIDERED FOR A TRANSFER STRATEGY

The discussion of the model above is a visual representation of the information transfer process. However, lessons learnt from the Phokoane Case, as well as the literature study, prove that there are many variables that should be considered during the development of a transfer strategy. The variables to be considered can be related to four categories, namely: the approach to be followed, people involved in the transfer process, information systems that serve as resources, and features of information that could influence the transfer process. All these are summarised in **Table 8.1** below.

8.3.1 Approach related variables

There is much to be learnt from the approach adopted by Adendorff, which contributed to the successful transfer of information on maize growing. Among the most important features identified were

Table 8.1 Variables to be considered for a transfer strategy

Approach related	People related	System related	Information related
1. Transfer through training	1. Authority and leadership	1. Information resources	1. Training
2. Voluntary participation	2. Family structure	2. Indigenous knowledge	2. Format
3. Involve groups	3. Traditions, norms, values	3. Transfer mechanisms	3. Language
4. Recognise women	4. Perception of time	4. People as boundary spanners	4. Credibility
5. Trust building	5. Group dynamics	5. Informal networks	5. Observability
6. Coordination, discipline, orderliness	6. Collective memory	6. Media & channels	6. Relevance
7. Step-by-step approach			7. Relative advantage
			8. Ease of understanding
			9. Ease of use

(i) Transfer through training

Information transfer through training seems imperative in cases where the target group is introduced for the first time to outside information regarding a certain practice. As is the case with so many rural communities, most of the small-scale farmers in the Phokoane area were elderly people or women with young children. Some of the participants were in their eighties. Most of them were illiterate which implied that existing information from the developed world was inaccessible to them. Therefore, the training programme served as a platform to extend the group's knowledge base.

Through training, information regarding maize growing was repackaged to suit the needs of the target group. It was also adapted to their level of understanding so the exercise was more than merely passing on facts. The participants' unfamiliarity with the literate world's way of transferring information was taken into consideration. Adendorff focused on their well-developed skills in listening and memorising to transfer information. His methodology proved that literacy is not always a prerequisite for the transfer and implementation of information or technology. There is an important lesson to be learnt from this, since most of the development efforts in rural communities undertaken by development agents are aimed at illiterate adults.

The information transferred by Adendorff through training was situation specific. He realised that training in general would have very little effect if people could not relate

to it, or put it to practical use. Therefore, his training was limited to maize production. A high yield meant survival, and this served as a strong incentive for small-scale farmers to take part in the training programme.

Adendorff was aware that the participants in his training courses did have some knowledge (indigenous knowledge) of maize growing according to their traditions, but they lacked knowledge of the standardised practices of deep ploughing, proper hoeing, fertilisation, et cetera. So, he first had to train these people at a very elementary level in a way that made sense to them and which was acceptable to them. In other words he first had to increase their receptivity before they could accept this "new" information on maize growing.

(ii) Voluntary participation

Since the latest trend in development is that participants from target groups should take part in all aspects of the transfer strategy, it is important to encourage members of a target group to participate. The Phokoane Case showed that participation contributed to people's self-esteem and self-confidence. However, this participation should be voluntary. In the case of Phokoane, no participant was forced to accept the information offered. After the first successes of the training programme, small-scale farmers volunteered to participate.

(iii) Involvement of groups

Since most people in rural communities are used to the traditional methods where the leaders decide on behalf of the groups, it seems advisable that groups and not individuals should be involved in the planning, decision making and implementation of transfer activities. For example, in the Phokoane Case, participant groups were encouraged to take part in quizzes or participate in question time during group meetings and field visits. Contact between the field worker or facilitator and the participants is simplified where groups instead of individuals can be visited.

Apart from these practical arrangements, individuals in a group depend on the opinion of the group when new information is introduced.

(iv) Recognition of women

The investigation showed that about 80% of the small-scale farmers in rural communities are women, therefore, it is important to involve them in decisive matters. However, they could only be involved if they had the necessary knowledge to enable them to show their insight into matters in which they are involved.

(v) Trust building

Trust building and development of self-confidence are viewed as prerequisites to change existing mind sets of aggression and distrust to attitudes of trust and acceptance of information that is introduced from outside. In the case of Phokoane, trust building was achieved through rewarding every task carried out correctly by way

of positive remarks or certificates awarded at ceremonies. The expression of appreciation for typical features such as beautiful singing and respect for the groups' values and norms were other attempts to build trust and gain credibility. Thus, it seems important to build in incentives that will also motivate people to develop responsibility for themselves.

(vi) Coordination, discipline and orderliness

The Phokoane Case showed how valuable planning, coordination, discipline and orderliness can be in any transfer programme. These prove to be general prerequisites for the smooth functioning of the transfer process. They were applied in Adendorff's training programme, as well as in arrangements for meetings or organising support services.

(vii) Step-by-step approach

The Phokoane Case, as well as examples from the literature study, show how important it is to follow consecutive steps in the transfer process and also not to provide too much information at a given time, which could result in confusion among the recipients. In the Phokoane Case the transfer of information was carefully planned. The fact that the participants were dependent on their memories for storing new concepts, compelled the trainer to break down the contents of the training programme into consecutive lectures. Each lecture contained only essential facts, in order not to overwhelm the receivers with too many new concepts at a given time.

Since the participants were mainly elderly illiterate people originating from an oral tradition, it seems obvious that the transfer mechanisms used to transfer information regarding maize production should meet the requirements for information transfer in traditional or oral cultures. Although the Phokoane Case did not explicitly reveal how inhabitants transfer information among themselves, the transfer methods that were applied successfully during the training programme provided us with clues to the type of transfer mechanisms the target groups were used to, or could relate to. These were inter alia:

- **oral** means of information transfer through storytelling
- use of **metaphorical speech** to accommodate a traditional means of communication to which the participants could relate
- **acting** to transfer and aid memorisation of factual information such as the correct use of fertilizers for different growth phases of the maize plant
- **demonstrations** to aid visualisation of real-life situations and to emphasise the importance of acting correctly to avoid disaster by, for instance, ploughing correctly to avoid soil erosion
- relating outside information to **indigenous knowledge** such as comparing the value of fertilizer for seedlings to that of colostrum for new-born calves

- **repetition** to reinforce the memory for storing information

All the above compared well with the typical way in which oral cultures transfer information in general, as discussed in chapter 5.

Considering the above it seems clear that the approach followed emphasised the human element in the transfer process with a desire to address existing attitudes and perceptions that could retard the transfer process.

Although the training programme was concerned with the transfer of information to small-scale farmers, it certainly can be generalised to the transfer of information to other groups in a rural community who are also elderly, illiterate, unskilled in modern practices, and originate from the same type of traditional background. These insights can be put to good use when developers wish to design strategies for information transfer or technology transfer to rural communities with the intention of developing different sectors in a rural community.

8.3.2 People related variables

(i) Authority and leadership among groups

The literature reveals that headmen and elderly people are usually viewed as authority figures in traditional cultures. This was also the case at Phokoane. Traditionally, headmen were respected by the group for their knowledge and wisdom and are therefore trusted in decision making and planning to solve problems (Olson 1994:107). It seems that the group put their faith in their leaders and believe that they will know best and act on their behalf. This is probably the reason why very few of the group will take the risk of making an individual decision.

According to Olson (1994:42) the opinion of an authority figure will be accepted over ideas contained in written information, since knowledge in print is experienced as downgrading figures of wisdom. Interestingly enough, Adendorff found that once he as an outsider was accepted by the groups, they trusted him fully regarding the outside information and accepted whatever he introduced unconditionally. It would therefore seem that information from the development agent will be accepted, provided he is trusted by the group. It seems evident that mutual trust plays a cardinal role in the transfer of information among traditional cultures.

In the Phokoane Case, Adendorff found that many of the farmers who approached him to sign up for participation for the first time, were actually commissioned by a group of people who were interested in his training programme. These "delegates" turned out to be natural leaders selected by their own group and not allocated to a group by an outsider.

Adendorff found that the advantage of group dynamics with regard to information transfer is that it is easier to reach consent with the group leaders before starting with the group. Group leaders were also respected by the group. Their credibility among the group enabled the trainer to convey his message to the group. If the group leader

trusted the trainer he or she would pass on the message to the group. So, the group leader becomes a natural channel for the transfer of information to people at grassroots level.

(ii) Family structure

Adendorff's needs' analysis revealed that although the small-scale farmers had an extended family structure, the husbands or able men were mostly absent as a result of migration to the cities in search of paid labour. This seems to be a typical phenomenon in rural communities where an increasing number of extended families are headed by women (Nwagha 1992, Dixon et al 1994). At Phokoane about 80% of the small-scale farmers were women. This had serious implications for decision making or provision of funds for participating in the training programme (buying seeds, fertilizer, etc to implement newly obtained knowledge), or in applying for loans. Indirectly, the absence of males hampered the acceptance and implementation of information or technology.

(iii) Traditions, norms and values

The needs' analysis conducted by Adendorff revealed that most of the participants originated from a traditional culture. From the literature (Goody & Watt 1963; Ong 1982; Botha 1991; Olsen 1994) it is also evident that in traditional cultures all information is obtained, stored and transferred by oral means – that is, face-to-face and by word of mouth. This has serious implications for the transfer of agricultural information from the industrialised countries to rural areas. The bulk of the information from the industrialised world is currently disseminated through print and electronic media. This implies that outside information in these media will be inaccessible to small-scale farmers, unless it is interpreted by an intermediary such as an extension officer or trainer, or repackaged in a format and on a level they can understand.

A large part of Adendorff's success with transferring outside information to his target group can be found in his application of transfer techniques of the oral culture, in this way honouring the group's traditions, norms and values. His approach proved that unless transfer methods are changed to acceptable levels for this type of recipient, the transfer effort will be less successful.

(iv) Perception of time

In traditional cultures time does not seem to be the same issue it is for people from the developed world. Rural people tend to carry out chores much more leisurely (Hill & Still 1980). This has implications for maize growing practices where ploughing, planting, hoeing and application of fertilizers or pesticides requires timeliness to avoid crop failure. These activities could not be carried out at will. Adendorff addressed this problem by supplying the group leaders with timetables regarding different activities during the maize growing season.

(v) Group dynamics

Although it is not stated explicitly in Adendorff's needs' analysis, it is well known that rural people are used to communal activities conducted under the authority of a

headman. However, he was certainly aware of this, which is why his training programme was directed at groups and not individuals. An important lesson can be learnt from Adendorff's utilisation of group dynamics in his transfer strategy.

A scrutiny of the training programme as well as several interviews revealed how the group dynamics phenomenon was manifest in the groups' information behaviour. For example: members of the group supported each other in interpreting the training programme's contents – which were regarded as outside information. The group seems to safeguard individuals from misinterpretation or taking the risk of making independent decisions on issues they are not too familiar with. Individuals usually abide by the group's decision on an issue. A few examples are the confirmation of the group on how much fertilizer to apply per hectare, how far apart seeds should be planted, or how deep to plough. All these concepts were new to the participants, and because they were not used to taking decisions individually, the group served as a support system for the individual.

(vi) Collective memory

When it comes to the transfer of information from the developed world to a developing community, it is important to consider the role played by the community's collective memory. From the literature it is evident that in oral cultures information is stored in a collective memory. This was also the case at Phokoane. With regard to the training programme, the group acted as the collective memory due to the fact that participants were illiterate and could not fall back on recorded information. Individuals depended on memory support from family and friends.

As recorded by Fuglesang and Chandler (1987), illiterate people seem to have very sharp memories. When memorised information is recalled, it is often reported exactly as originally stored (Olsen 1994). This was demonstrated by one of the Phokoane farmers who had participated in the very first presentation of the training programme. After seven years he recalled parts of the contents verbatim as memorised, in the consecutive steps exactly as he had learnt them. Since this way of recall was time consuming, we courteously asked if he could limit himself to answering our questions only. He tried his best, but was visibly annoyed for being interrupted halfway through his account (personal observation in Nebo District, 1997). This incident provided a valuable insight into the manner of recall among rural people – which could cause misunderstanding, and sometimes frustration between development agents and target groups if not fully appreciated.

8.3.3 System related variables

(i) Modern information resource systems

In chapter 5 we referred to Havelock's interactive model where the information resource system and the user system are introduced as two separate communities – that is, the resource community where most of the solutions to problems are developed, and the user community, which needs solutions to solve problems (Havelock 1986c). Both these systems are separated from each other by their boundaries, which are introduced

as membranes that are only partly permeable. Each system will allow exit or entrance of information through its boundaries according to its own terms. The Phokoane Case proved to be a typical example of these two systems. In the case of the Development Corporation, which acted as the resource community, there were a number of aspects that prevented effective transfer of valuable information to the user community in need. These could be ascribed to the following:

- From the discussion of Phokoane's case history in chapter 7, it became clear that there was dissatisfaction with the development approach followed by the Development Corporation of that time. This involved the input/growth model where the agricultural development corporations used to farm on communal lands on behalf of the local rural authorities. The small-scale farmers did not gain intellectually from the information in the resource community in the sense that they could not participate in their own development. The development was done on their behalf. Thus, the development approach prevalent at that time, as well as the policies followed by the developer, acted as system related variables that retarded the transfer of information.
- Another phenomenon present was that the information system used by the developer and the indigenous information system of the small-scale farmer were totally incompatible. The developer's information system was based on information recorded in print while the small-scale farmers were used to the indigenous information system based on oral transfer and storage in the collective memory. It seems that both parties were unaware of each other's information systems or could not find transfer mechanisms to permeate the boundaries of the two systems.

Considering the above, it seems obvious that variables present in the two systems were responsible for the ineffective flow of information. However, the transfer mechanisms used in the training programme showed that awareness of system related variables could be harnessed to enhance the transfer of information between the two systems present in rural agriculture.

(ii) Indigenous knowledge base

According to Adendorff's needs' analysis (Adendorff 1991), it is evident that the Phokoane small-scale farmers had a limited knowledge base regarding maize production for food security. The farmers were unfamiliar with modern farming practices such as using fertilizers, topdressing, pest control or weed control. Although the farmers possessed indigenous knowledge of cultivation, climatic conditions, what time of the year the growing season starts, plants and insects, they did not always understand the relationships between these things. They knew they had a problem but were ignorant of what caused it. As a result, indigenous knowledge of natural resources such as rain, wind, high summer temperatures and cold winter temperatures were used incorrectly at various stages of maize production, or they did not use the elements to their full advantage. Thus it seems that they lacked the ability to utilise existing indigenous knowledge to the optimum by relating cause and effect.

Additional knowledge regarding loans to obtain inputs, or knowledge about support services, such as ploughing and planting services or credit facilities, were almost nonexistent. In commercial farming practices there is an awareness (perhaps subconscious) of the impact of these different types of information on effective production practices. This related information is merely taken for granted in commercial practices in the developed world. However, the Phokoane case showed that these cannot be taken for granted when it comes to developing communities. The trainer or development agent needs to consider which additional information regarding related issues should be included in a development programme.

In order to solve the problem of the small-scale farmers' limited knowledge base regarding maize production, it seems evident that outside information should be related to their indigenous knowledge in such a way that it can be understood and accepted. This is then the role the training programme has to fulfill.

(iii) Transfer mechanisms of traditional cultures

A study of the Phokoane Case revealed a number of transfer techniques that proved to work well for transferring information to people who originate from an oral tradition. These techniques are of particular interest because the participants were used to them and they helped them to memorise factual information better. These techniques are also of interest because developers are concerned with the deliberate transfer of information rather than the dissemination of information to a vaguely identified group that might accept it should they become exposed to it – as in the case of transfer through mass media. The techniques used in the Phokoane Case are grouped as follows:

(a) Oral aids

Since most of the participants were illiterate, oral aids were predominant in the training programme. Oral aids included storytelling, acting, the use of metaphors and repetition of concepts. Many of the participants memorised the contents of the lectures by grouping objects like sticks and stones in certain patterns.

Acting – such as the lion (witchweed) sneaking up on the goats in the kraal (maize field) – is used to reinforce perceptions, or help to change impractical practices or negative attitudes.

(b) Revision of concepts

Revision of newly introduced ideas or concepts helped participants to memorise better. For example, concepts introduced during training sessions were repeated at the beginning of a new lecture to ensure that participants recalled correctly. Group members were encouraged to participate in revision sessions. During revision, individuals were asked questions and praised, encouraged to ask questions or make suggestions and their achievements were acknowledged with awards.

(c) Demonstrations in real-life situations

Visual aids – such as the demonstration with containers of how soil erosion can occur if fields are not ploughed properly – played an important part in linking facts to reality. Demonstrations of how to operate a plough correctly, or the correct measuring of fertilizer were held to enable participants to experience what they had learnt in the lectures. This visual experience helped them to memorise technical details better. Understanding the impact that weeds and pests have on crops was facilitated when their presence was pointed out during field visits.

(iv) People as boundary spanners

Due to the fact that small-scale farmers in the Phokoane area were mostly illiterate elderly people, who were used to obtaining information through oral means, it was imperative to use people as media to convey messages. The fact that most of the small-scale farmers were not even aware that (outside) information could help to improve their way of living, necessitated the deliberate transfer of information through training. The assumption that diffused information (ie information that was not deliberately transferred) would eventually be accessed and used by the potential users, would not suffice under these circumstances. Since small-scale farmers are no different from other inhabitants in a developing community, it can be assumed that the same requirements would apply for all inhabitants.

(v) Informal networks

The Phokoane Case revealed that informal networks were developed deliberately to transfer messages regarding the training programme. These were, inter alia, the group committees that were established, the regular field visits, and of course the meetings for lectures every fortnight. Although other informal networks might have existed through which information probably flowed, they were less effective for this specific transfer process. The development of informal networks for specific transfer purposes seems to be important in the deliberate transfer of situation-specific information.

(vi) Media and channels

The effective transfer of information is dependent on appropriate media and channels. Utilisation of these media and channels depends on the users' familiarity with them, as well as their ability to use them. The Phokoane Case showed that oral media such as oral presentations, acting, singing, praying and demonstrations were predominantly used to transfer messages and technology. This can be ascribed to the fact that the participants originated from an oral culture and were used to receiving information through these media and channels.

Channels used were also predominantly oral in nature such as the lectures where information was transferred verbally, and the field visits where information between the sender and receivers was exchanged informally within hearing distance. Wherever group leaders, group committees, local authorities and local headmen were used as channels, the information was transferred by word-of-mouth.

Considering the above and taking into account that most information from the developed world is transferred through print and electronic media and similar channels, it seems obvious that information needs to be repackaged when outside information is transferred to developing people. Therefore it seems that unless this adaptation is made – in particular, transfer through training to extend the existing knowledge base – information from the developed world will be less useful as a resource for development. Taking into account that the trainer (extension officer or facilitator) is the person who operates the interface between the developer and the target group, it seems obvious that this is where the big change in direction has to take place. This implies that trainers (extension officers or facilitators) need to be trained to transfer information in an appropriate manner to target groups in developing communities.

8.3.4 Information related variables

(i) Training

The Phokoane Case is also a good example of how information related variables can constrain the effective transfer of information. The small-scale farmers' indigenous knowledge enabled them to grow maize in the traditional way. However, changing population and environmental circumstances rendered the practice of this type of knowledge ineffective for survival. Only after the extension of the groups' knowledge base through training was the transfer of outside information possible.

(ii) Format

Format proved to be an important information related variable in the transfer of information to traditional small-scale farmers. In the developed world, all information accumulated through human experience is usually recorded in printed or electronic format and can be accessed by individuals. It is taken for granted that the potential user will know where and how to find information and will know how to implement it. The Phokoane Case proved how important it is that outside information should be repackaged in a format that is acceptable to this particular type of user who is not familiar with recorded information outside that in the human memory.

(iii) Language

In the Phokoane Case, language also proved to be a variable that could limit the transfer of outside information. Although information was transferred verbally and through demonstrations, the trainer had to make use of interpreters to ensure that the farmers understood the message correctly. The manner in which the message was conveyed, metaphors, comparisons, idioms, body language, and so on all helped to emphasise important issues regarding the contents of the lectures.

(iv) Criteria for acceptability

Apart from the qualifications mentioned above, information introduced from outside also had to comply with requirements of credibility, observability, relevance, relative advantage, ease of understanding and compatibility before it would be accepted by the

participants. In the Phokoane Case the impact of these variables could be seen in the following:

- The manner in which the information was introduced contributed to its credibility among the participants
- The visual difference in their maize crops before and after the training programme made the presence of the outside information more observable
- The participants experienced a relative advantage in the new way of growing maize, because they harvested more than was the case with their traditional practices
- The manner in which the message was conveyed made it easy to understand the outside information, because it was offered in a style the recipients were used to

To summarise, the many variables to be considered in planning an information transfer strategy become the facilitator's "toolkit", which should be ready and at hand when needed.

8.4 ROLE OF THE FACILITATOR

During this discussion it has become evident that the transfer of information from the developed world to developing communities is a deliberate action involving human intervention. Of all the human intervention involved, the involvement of the facilitator at grassroots level seems to be crucial for the successful accomplishment of the transfer process. In fact the Merger Model reveals what a key role the facilitator has to play. Unless the facilitator understands how to draw from both resource systems and how to manage the flow of information by deciding how to add value to information at what time for a specific situation, information transfer will be inefficient.

So, apart from any other competencies the facilitator may need (eg extension officer in agriculture, health worker or consultant for farming implements), the successful transfer of information for development purposes depends on the facilitator's knowledge, skills and experience regarding information, the receiver, information resource systems, the development environment, and the transfer process as a whole. From what we have learnt from a study of the literature and the Phokoane case study, it is now possible to identify some prerequisites necessary for facilitators to become the strongest link in the transfer chain, or the crucial building block to bridge the information gap between the developed world and developing communities in rural areas. These prerequisites are discussed below.

8.4.1 Information as a resource

From the discussion of information's attributes in chapter 4 it became evident which attributes are suitable and which less suitable for development purposes. The Phokoane Case showed how these attributes work in a real-life situation. For example: information regarding maize production increased the small-scale farmers' knowledge

base, it helped to enhance growth, self-esteem, and it increased perceptions among others. Implementation of the “new” information and its successful outcome acted as a dynamic force, which motivated potential small-scale farmers to participate in the training programme, or to learn other skills as well. On the other hand, information is dependent on the format in which it is packaged, and the way in which information is used is dependent on culture. The facilitator should be knowledgeable about the various attributes and how they can impact on the transfer of outside information. Prior knowledge of these attributes is crucial in the planning of an information transfer strategy, to avoid pitfalls and to utilise information effectively as a resource for development.

8.4.2 Information resource systems

The literature study and analysis of the Phokoane Case clearly revealed that both the indigenous knowledge system and the modern information resource system are made up of elements from which the illiterate participants can benefit. However, it requires a thorough knowledge and experience from the facilitator to know what to draw from the different systems for a specific situation.

Both the indigenous knowledge system and the modern information resource system have mechanisms to collect, store, retrieve or transfer information. Each of these systems has developed along lines necessitated by their respective user communities. The unique circumstances which have developed around rural people have resulted in a situation where both systems have comprehensive knowledge bases, but they are not always appropriate to meet users' current needs. That is why the facilitator is expected to understand both information resource systems and the functioning of their respective transfer mechanisms to know how to draw from both systems to facilitate the target groups.

Current demands require the facilitator not only to be aware of the demands of the two information resource systems, but that he or she should also know how to utilise the modern information system to the optimum – that is, to be information literate in order to use modern information tools and techniques to obtain the required information and to know how to repackage the collected information to meet the target group at their level of understanding.

8.4.3 Information transfer process

The discussion of information transfer confirmed how complex the transfer process is and that more is required than simply passing on information. The facilitator needs to understand that the transfer of information to rural people is a deliberate action of intervention, because rural people seldom realise that information is the missing resource that might help to solve their problem. The facilitator also needs to know that information is not always transferred in isolation. Most of the time information forms the underlying part of technology or other issues the recipient needs to be informed about. In the case of rural people who are not familiar with many related issues that could influence the use of information on a particular issue, information on related issues should also be transferred. For example, the optimum use of information regarding

maize production requires information on input resources such as seed, fertilizers and also loans and credit facilities. A lack of the additional information can render the core information less useful or valuable, because it does not have sufficient support.

8.4.4 Participants' information usage behaviour

The literature study and the Phokoane Case proved how important it is to understand the target group's information usage behaviour. This investigation revealed that the information usage behaviour of illiterate people in rural communities differs substantially from that of users of the modern society. The facilitator should also know which variables contribute to their particular usage behaviour. He or she should know how target groups make sense of outside information, and how this is influenced by their norms and values. In addition, they do not always have enough background knowledge to hook on new perceptions and they usually depend on others in the group as sounding boards for their own interpretation.

Circumstances within the environment of the target group causes them to develop their particular way of communication, mostly from person to person and by way of demonstrations, thus mainly based on requirements of the oral traditions. Therefore, the media and channels which convey information in developed societies are not equally effective for information transfer to rural people. Ignorance regarding the rural people's information usage behaviour can result in the implementation of transfer techniques and mechanisms that the facilitator may assume to be appropriate for rural conditions. Such an assumption may ultimately prove to be very costly and ineffective.

8.4.5 Impact of development approaches

It is of cardinal importance that facilitators should be *au fait* with current development approaches. For example, the modern trend is to involve rural people in their own development, to make use of what experience and knowledge they can offer. Ignorance of the latest developments can cause confusion and distrust and as a result poor collaboration from the target group's side. In the end the transfer process will suffer.

The facilitator should also be aware of the policies implemented by decision makers regarding development practices. In this way information transfer practices can be coordinated and many pitfalls can be avoided. On the other hand, knowledge of policies, legislation and politics can help the facilitator to communicate and negotiate on behalf of the target group. In this way the interactive transfer of information can be enhanced.

To summarise: the facilitator needs to comply with the requirements mentioned above in order to be able to plan, coordinate and manage the information transfer process in such a way that information becomes a useful resource for rural development. Therefore it seems that much of the value adding process lies with the facilitator. How well the facilitator is prepared for the transfer of information, will determine how strong or weak the last link in the information transfer chain is.

8.5 SUMMARY AND CONCLUSION

Analysis of the Phokoane Case in the previous chapter shed light on what happened during the successful transfer of information from the developed world to rural communities in the developing world. Evaluation of the manner in which the transfer process advanced in the Phokoane Case gave rise to the idea that the transfer system of indigenous knowledge and the modern information transfer system need to be merged through human intervention at grassroots level to ensure the acceptance and implementation of information from the developed world. This resulted in the devising of the Merger Model to transfer information to rural communities.

The Phokoane Case taught us valuable lessons about the linkage mechanisms and transfer techniques appropriate for target groups in rural areas where people are unfamiliar with the information systems of the developed world.

The processing of data through the method of pattern matching revealed a variety of variables that could constrain the transfer of information if not addressed properly during the planning of an information transfer strategy. Through pattern matching, it was possible to arrange these variables in four categories, namely: the approach to follow, the people involved, the systems that support the transfer process, and variables related to information itself. The Phokoane Case showed that these variables manifest interactively and are often difficult to distinguish from one another.

The Phokoane Case also showed us how important it is to have a profile of the target group which should be considered when planning a transfer strategy for the introduction of outside information to rural communities. Without such a profile many variables regarding information usage among people originating from a traditional culture can easily be overlooked to the detriment of development projects.

The investigation also revealed that an appropriate transfer strategy contributes in two distinctive ways to the upliftment of people in rural communities, namely, materialistic advantages as well as intellectual advantages.

The value of information was reflected in the successes achieved by the training programme. Although information is mainly an intangible resource it was concretised through techniques of maize growing. It proved to be a dynamic force that encourages people to change their negative attitudes of the past and to empower themselves through building up their knowledge base and learning new skills.

In conclusion, we can state that the Phokoane Case allowed us in-depth insight into the information usage behaviour of rural people including media and channels for communication that were not previously taken into account by developers. Investigation of the Phokoane Case also shed more light on the value of information as a resource for development that can no longer be ignored should developers wish to improve rural people's lives through the transfer of information and technology in their development projects.

Although the Phokoane Case was intended to teach small-scale farmers to grow maize for food security, it was in effect an information transfer project because it contained important elements of information. It provided us with valuable insights into the value of information as a resource for development. It can be used to establish guidelines with regard to the training of information workers and other field workers in a developing context, who need to empower target groups through the appropriate transfer of information.

As far as Information Science is concerned, we learnt from the Phokoane Case that the utilisation of information is not necessarily dependent on literacy for development. More important is the manner in which information is transferred, which determines whether or not it will be a valuable resource for development.

The next chapter will provide an overview of this investigation together with recommendations for a curriculum to train field workers active in development projects among target groups in rural communities who originate from an oral tradition.

CHAPTER 9

CONCLUSION AND RECOMMENDATIONS

9.1 INTRODUCTION

The purpose of this chapter is to determine to what degree the outcome of this investigation has complied with the aim and objectives identified in chapter 1, to indicate what theoretical and practical contributions this investigation made, to provide an overall conclusion, and to make recommendations regarding implementation of the outcome and further research.

9.2 AIMS

The aim of this project was to investigate the information transfer process as it manifests itself in rural communities, to determine whether information is an important resource for the development of rural communities. The aim has been achieved in that the investigation shed new light on how the information transfer process manifests itself among small-scale farmers in rural areas. Since small-scale farmers form an intrinsic part of the inhabitants of rural communities, the outcome of this investigation can also be extrapolated to other users of information in rural communities that experience similar conditions. Insight has also been obtained into the value of information as a resource for development.

Insight gained from the Phokoane Case has made it possible to develop the Merger Model, which represents the actual transfer of information in the interface between the developer and the participants at grassroots level. This could serve as a guide for developing information transfer strategies for similar situations.

9.3 OBJECTIVES

This section lists the objectives originally set in chapter 1 followed by a discussion of the outcomes, indicating whether or not these objectives have been met.

Objective 1: Define small-scale farmers as potential users of agricultural information

The literature study revealed that small-scale farmers – who are mainly women and elderly people – make up that part of a rural community which has access to land for farming purposes. Although there can be various categories of small-scale farmers, this study focussed on the category of those involved in farming for food production for own consumption and not necessarily for commercial purposes. These small-holders are mostly illiterate and do not have formal training in farming practices. Most of their knowledge and skills regarding agriculture, were passed on to them from previous generations.

The Phokoane Case proved that small-scale farmers in this particular category are eager to obtain information that could help them to improve their maize production. However, the most important requirement is that the information provided should be in a format they can understand, use and access when needed. Thus, for small-scale farmers originating from an oral culture, information should be transferred orally through human intervention. When the information originates from a resource base in the developed world, substantial adaptation is required to bring information down to a satisfactory level for acceptance by the farmers. It is most significant that these small-scale farmers are indeed potential users of information.

The objective has been met and the outcome has proved that small-scale farmers need not be literate to use information. However, in order to add value to information, adaptation and repackaging of the appropriate information for a specific situation is required before it can benefit potential users.

Objective 2: Determine the information usage behaviour of small-scale farmers

The literature study revealed that rural people originating from an oral tradition (including small-scale farmers) have developed a particular information usage behaviour which is compliant with the requirements of the indigenous information system of the oral tradition, such as oral transfer of information within hearing distance, memorising information, and depending on (or believing in) authoritative figures to make decisions. The Phokoane Case proved that information usage behaviour typical of the oral tradition is still prevalent among small-scale farmers. For example: storing of information, that is, memorising, is intensified by methods such as singing, dancing and storytelling. The group's opinion on matters is usually held in high esteem by individuals. In fact, it was the exploitation of the information usage behaviour of the small-scale farmers which in large part contributed to the successful transfer of agricultural information among participant groups in the Phokoane Case.

The investigation also revealed that there are many variables within the environment of rural people that have also contributed to their peculiar information usage behaviour, such as development approaches of the past which fostered dependency on outsiders when it came to decision making. Also the practices followed by Development Corporations of the previous homelands in South Africa, where sophisticated commercial farming practices were carried out on behalf of rural communities, to a certain extent deprived small-scale farmers of the ability to obtain or apply outside information themselves.

The Phokoane Case also proved that outside information will not easily be accepted unless the consent of opinion leaders or that of the group is obtained. The credibility of the person who communicates the information plays an important role in the information usage behaviour of small-scale farmers. If the group found the intermediary or facilitator trustworthy, the information would be accepted.

Since small-scale farmers are part and parcel of a rural community, it can safely be assumed that these variables will also be present among other groups (comprising

illiterate adults) in a rural community, who are also in need of the development of their knowledge base, skills and understanding in order to develop their own capacity.

The set objective has been met. It is further suggested that a profile of the information usage behaviour of rural people should be used as a guideline in planning an information transfer strategy for developing programmes or projects.

Objective 3: Determine the value of information regarding rural agriculture

The literature study revealed that information has a number of attributes that could make it a valuable resource for development purposes. It also has attributes that make it less suitable as a resource for development. However, the Phokoane Case proved that attributes less suitable for development purposes can be turned around by adaptation, repackaging for a specific situation, and the correct method of transfer. This leads to the view that information can be a valuable resource for development, but not unconditionally. It can act as a dynamic force which can bring about the desired change that is the ultimate aim of the development process, but the transfer process as carried out in developing communities should be carefully planned.

The successful maize production at Phokoane, after information was transferred through training, is proof of the value of information as a resource for development. The outcome of the training programme resulted in many positive changes among the participants.

The Phokoane Case proved that in a rural set up, outside information on a particular issue – such as maize production – is dependent on the availability of outside information on other issues which are related to the main issue for value adding. It cannot be assumed that rural people are familiar with information on related issues such as fertilizer, pesticides and loans, which are all necessary to ensure successful maize production.

The above discussion is evidence that the objective as defined was met. It is suggested that developers should seriously consider the various attributes of information when designing a transfer strategy to provide for the particular information needs of small-scale farmers.

Objective 4: Determine what the transfer process in rural communities entails

The literature study, as well as the Phokoane Case, showed that the deliberate transfer of information from the developed world causes the transfer process in rural communities to differ from that of the transfer process in the developed world. The investigation showed a few outstanding features of this transfer process. These include, inter alia, the involvement of a facilitator, the need for training of the participants to expand their knowledge, the adoption of transfer mechanisms from the indigenous knowledge system to make outside information more acceptable to the recipients, and good planning and coordination of transfer activities to fit in with other processes required during the maize production cycle (or any other practice for which information may be required).

The set objective was met. It seems important that developers who wish to contribute to the upliftment of people in rural communities should pay serious attention to the peculiarities of the transfer process as it manifests in rural communities.

Objective 5: Explore information systems to which target groups are exposed

The investigation revealed that rural people are exposed to information from the indigenous knowledge system as well as the modern information resource system. Information originating from the modern information system is less effective as a resource due to the fact that the potential users are not familiar with either the linkage mechanisms used for the transfer process, or the background from which the information of the modern system originates.

The investigation also revealed that changing circumstances within the environment of the rural people had a profound impact on the usefulness of the indigenous knowledge system as a resource to meet new information requirements. These were, inter alia, traditional people's contact with industrialised endeavours in neighbouring areas which lured people away for cash income. To compete in the modern sectors, different types of information and skills were required which could not be provided by the indigenous knowledge system. So, although the indigenous knowledge system contained valuable information, for particular reasons it was not in demand. This insight proved wrong the popular belief that the First World looks down on indigenous knowledge. It proved that there can be various reasons why the indigenous knowledge system has fallen into partial disuse.

The Phokoane Case showed that the indigenous knowledge system does indeed have valuable information that could be applied. It only needs a knowledgeable person to know what to draw from this system and how to combine it with information from the modern information system before it can be applied to a specific situation.

The fact that both information systems available to small-scale farmers, house valuable information that could only become accessible through human intervention, shows what responsibility rests on the shoulders of the facilitator or intermediary at grassroots level.

The set objective was met. However, it should be pointed out that human intervention requires that the field worker responsible for the merging of information from the two systems should be knowledgeable and well trained to ensure the successful transfer of information.

Objective 6: Identify factors that could influence the transfer process

Numerous factors that could influence the transfer process in rural communities have been identified. These factors can be related to attributes of information, cultural influences, people related factors and system related factors. The Phokoane case proved that a number of unknown variables which have to do with culture, (negative) emotions and perceptions of the participants acted as barriers to the transfer of information. Unawareness of what information entails and a lack of understanding of the different mechanisms for handling information, as well as ignorance among

developers of the requirements for accepting outside information by small-scale farmers proved to be major factors that could retard the transfer process.

The confirmation above is proof that the set objective was met. It should be valuable for developers to take cognisance of the influence of these factors to avoid pitfalls in future.

Objective 7: Identify appropriate linkage mechanisms for information transfer to small-scale farmers

The literature study carried out for this investigation revealed what type of linkage mechanisms are used in rural communities where the oral tradition still prevails. The Phokoane Case proved that small-scale farmers – who form an intrinsic part of the people in rural communities – are still using media, channels and other linkage mechanisms typical of the oral tradition as applied within the indigenous knowledge system. They are not familiar with linkage mechanisms of the modern information system and therefore cannot access information in a written or electronic format.

However, an analysis of the training programme at Phokoane proved that outside information from the developed world can become more useful provided that linkage mechanisms of the indigenous information system are applied to transfer outside information to small-scale farmers. This implies that human intervention – an intermediary who knows how to apply the traditional linkage mechanisms – is required to ensure that transfer takes place.

The objective as defined was met. However, it should be taken into account that the onus is on this facilitator or intermediary to decide how to apply the required linkage mechanisms within a specific situation and for the particular level of understanding of the target group.

Objective 8: Develop a model that represents the transfer of agricultural information in rural communities

From the literature study regarding the traditions, norms and values of rural people, it was already evident that rural people originating from an oral culture were used mainly to the information handling mechanisms of the indigenous information system only. Comparing knowledge of the modern information system and its access mechanisms with the above proved that the two systems to which rural people are exposed were incompatible. Insight gained from the Phokoane Case where outside information was successfully transferred by using linkage mechanisms from the indigenous knowledge system, proved that outside information could be made useful to rural people if qualities of the two systems could be merged to develop a mechanism suitable for developers to transfer agricultural information to rural communities. This gave rise to the development of the Merger Model, which is proposed in chapter 8.

The discussion above is evidence that the set objective was met. However, further research is needed to develop a curriculum for the training of extension officers who can operate effectively as facilitators in the transfer of agricultural information to small-scale farmers in rural communities.

9.4 CONTRIBUTIONS OF THIS INVESTIGATION

Reflecting on what has been envisaged in chapter 1 regarding the theoretical and practical outcomes of this study it is believed that this study contributed to the theory of Information Science, as well as the practical application of information as a resource for development, and information transfer strategies to be incorporated in development programmes. The contributions are as follows:

9.4.1 Contributions to the theory of Information Science:

- More light has been shed on the usefulness of information as a resource for development
- With regard to information transfer to rural communities the need for adaptation and how it should be achieved has been identified
- More light has been shed on the information usage behaviour of people originating from an oral tradition and how this can impact the transfer process. Previously very little has been known in this regard
- Techniques most suitable for information transfer to rural communities have been identified
- Underlying factors which can retard the transfer of information to rural communities have been identified. This would not have been possible without using the case study design
- A model for the transfer of information to rural communities has been developed

9.4.2 Practical contributions

- More light has been shed on the practical applications of deliberate transfer activities and the applications of appropriate techniques
- The need for planning and design of a transfer strategy has been identified
- The importance of interaction and participation by the target group has been emphasised
- The importance to acknowledge the impact of perceptions and attitudes in the transfer strategy has been identified
- The need for policy makers and development agencies to recognise the importance of an effective information transfer strategy for development endeavours has been highlighted
- Guidelines for the development of information transfer strategies have been developed

9.5 SUMMARY AND CONCLUSION

Lessons learnt from this investigation are that the transfer of information to rural communities is a long, complex, arduous and ongoing process which differs markedly from the transfer of information in the developed world. Authorities and development agencies involved in agricultural development in rural areas need not only be aware of the need for appropriate agricultural extension services to small-scale farmers, they should also have a thorough knowledge of the information usage behaviour of small-scale farmers, the functioning of their information resource systems, the value of information as a resource, and development approaches that could influence the entire transfer process.

Information as a resource for development can become an extremely powerful tool in the hands of development agents, provided they are aware of its value and know how to apply issue related information according to the usage behaviour of the target group to empower people at grassroots level.

It is evident that information is not the only input resource for development, but ignorance of its impact can retard development efforts and can contribute to inappropriate spending of funds for development, just as ignorance concerning the management of government fiscal resources leads to failure of development efforts.

Better understanding by trained participants can lead to a change of attitudes and change of unfounded perceptions that stand in the way of the upliftment of the target group. Training as a tool of transfer will remain a valuable partner for any development agency.

Apart from a thorough knowledge of the target group's circumstances and their information usage behaviour, the transfer of agricultural information requires careful planning, coordination of related activities, and skilful information management. The Phokoane Case proved that a sound information transfer strategy can translate development policy into action.

Lack of knowledge of modern agricultural practices among small-scale farmers makes the deliberate transfer of information imperative. It becomes a case of "information push", because there will not be a demand for modern information since the target groups are ignorant of modern practices to which they have not yet been exposed for whatever reasons.

This investigation showed that transfer of information to developing communities is interdependent on training, provided the training approaches comply with the requirements for acceptance by the target group. Transfer through training becomes imperative where receivers in the target group have no background knowledge of the environment from which the outside information originates. Training and trainers become pivotal in making outside information comprehensible and acceptable to users in the rural community. Human intervention is essential in the transfer process for the changeover from the one information system to the other. Consecutive steps need to be followed in a transfer strategy. Hence the view of the need for deliberate transfer of information instead of dissemination of information with no guarantee that it will be accepted and implemented.

9.6 RECOMMENDATIONS

Recommendations have been made throughout this dissertation as the implications for the transfer of information became apparent. However, those suggestions which appear to be of major importance are highlighted here. They are arranged in categories for ease of assimilation, but are not necessarily in order of importance.

9.6.1 Information Science

The literature study revealed that there is an awareness of the importance of information as a resource for development, but how and why is not spelled out clearly. It is suggested that more research should be done in the field of Information Science to point out the importance of information as a resource, specifically for the upliftment of rural people who are not literate and cannot access information with mechanisms of modern information systems. In fact, more research should be done to find out about the dynamics of the indigenous knowledge system and how it can be harnessed to benefit users in rural communities.

It is recommended that the sub field of user studies should pay more attention to the information usage behaviour of people originating from oral cultures. It is also recommended that the sub field of information management concentrate more on research programmes into the planning, coordination and development of information transfer strategies for rural communities.

9.6.2 Agricultural extension in rural communities

The literature study revealed that extension officers operating in rural areas in South Africa are not well equipped to transfer agricultural information effectively to small-scale farmers. It is therefore recommended that the following should be included in the curriculum for the training of extension officers:

- An introduction to development endeavours and development approaches and how they impact rural agricultural practices
- Background knowledge of other support services also operative in rural areas
- Background to information as a resource for development and the information transfer process in rural communities
- Introduction to the information usage behaviour of people originating from oral cultures
- Introduction to the functioning of the different information resource systems to which rural people are exposed
- The role of training in the planning, design and implementation of an information or technology transfer strategy for small-scale farmers in rural communities

- Compiling of information usage profiles of small-scale farmers, which could be used to design transfer strategies

9.6.3 Development agencies

It seems that unless policy makers and development agencies are aware of the value of information as a resource for development, or are aware of the importance of following a well-planned information transfer strategy, they will experience difficulties in launching programmes that could successfully support the development process in rural communities. It is therefore recommended that authorities and organisations involved in development endeavours in rural communities should be informed about the contribution this study can make to ensure successful implementation of development programmes in rural communities. Decision makers should also be convinced of the increased cost effectiveness of their programmes when a well-planned information transfer strategy is followed. They should be made aware of their indirect responsibility for information transfer within their development efforts.

9.6.4 Communication studies

It is presumed that the outcome of this study could benefit research in development communication – especially where governmental authorities responsible for the development of rural communities, nongovernmental organisations and/or parastatals involved in development projects are to be facilitated. There should be more awareness of effective methods to transfer information where participants are involved in their own upliftment, rather than being passive recipients of information. Awareness raising through mass communication alone will not ensure acceptance and implementation of information, which can make a difference in people's lives.

9.6.5 Support services in rural communities

For practical implementation of the outcome of this study, it is recommended that short courses are developed for field workers involved in support services (such as health services, social services, provision of water etc) operative in developing communities. The content of such courses should prepare field workers to communicate information more effectively within their field of interest, and also to ensure participation of target groups in their own development. Short courses offered in the field of Information Science can be designed in collaboration with officials responsible for development programmes.

9.6.6 Further research

The outcome of this study showed how rural people can be convinced to accept information of a technical nature, because they could experience the short-term physical benefits. However, little is known about how information that is intended to bring about a change in attitude should be transferred to be accepted and applied – that is, information from which the receivers do not experience any short-term benefit or personal gain. This type of information has to do with the prevention or spreading

of diseases, the preservation of natural resources such as water or forests, which are for the good of society in general, or even for the next generation. How can people who are struggling to survive from day to day be convinced of the importance of information on these issues? Further research is needed on the transfer of this kind of information to developing communities. A profile of rural people's information usage behaviour could serve as a point of departure.