The usability and effectiveness of a printed information booklet: a survey amongst small-scale rural farmers

By

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DECLARATION OF AUTHENTICITY

I, the undersigned Mpho Phillip Chaka, hereby certify that the work presented in this dissertation except where otherwise indicated, is my own original work and has not been submitted to any university for the purpose of obtaining a degree.

Mr Mpho Chaka

December 2003

Research on usability and effectiveness of a printed information booklet

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Research on usability and effectiveness of a printed information booklet

DEDICATION

This dissertation is dedicated to two special people in my life: to my beloved mother, Tiroyaone Agnes Chaka, for her love of education, and to my son, Realeboga.

ABSTRACT

The study attempts to evaluate the usability and effectiveness of an agricultural information booklet known as *Sunflower production: A concise guide* targeted at small-scale rural farmers in a South African developmental context. The main objectives are to establish the target audience's current knowledge of printed information as well as to examine the elements of the text such as appreciation, comprehension, and acceptance. This study also attempts to explore demographics and socio-economic factors as possible barriers to the effectiveness of communication in a developmental context.

The argument is that the viability of, and prospects for effective communication with the small-scale rural farmers depend on two interrelated aspects vis-à-vis usability and effectiveness. Firstly, usability is the extent to which a communication 'product' such as the information booklet can be used by specific users to achieve specific goals with effectiveness, efficiency and satisfaction in a specified context such as agricultural development. Secondly, effectiveness is the completeness and the accuracy with which users achieve specified goals. It often relies on the presentation of information in a way that is understandable to the users.

Doak and Doak (1996: 73) argue that although many types of material are suitable, most current information documents have shortcomings that make them difficult to understand. A serious shortcoming includes too much information in the document, which discourages poor readers and tends to obscure the priority of information for all readers. Sometimes the readability levels become too high for the average person. The reader is not asked to interact with the material, so the opportunity for learning and recall is lost. In most instances, difficult, uncommon words are seldom explained through examples.

Research on usability and effectiveness of a printed information booklet

This is an empirical study that attempts to approach the world of research subjects, in this case small-scale rural farmers, with the minimum of preconceived ideas and to look at the phenomenon under discussion, namely usability and effectiveness. It has a predominantly descriptive nature and is focused on the distinguishing characteristics of text focus, expert judgement and reader/user focus.

These issues were investigated during the research conducted among small-scale rural farmers in the North West province of South Africa. The booklet was also evaluated with the intention to establish which meaning the receivers find in the booklet on sunflower production and whether these messages really communicate the desired information. The research established that the material is not suitable for the target audience.

The findings of the study provided valuable information for development communication message design. It is clear that the dissemination of development information in the rural context must be revised to ensure effectiveness. This study supports the hypothesis that if the presentation of information is not appropriate for a specific target audience, the communication will not be effective.

Research on usability and effectiveness of a printed information booklet

OPSOMMING

Hierdie studie poog om die bruikbaarheid en effektiwiteit van 'n landbou-inligtingsbrosjure genaamd *Sunflower production: A concise guide*, wat gemik is op ontluikende in 'n landelike Suid-Afrikaanse ontwikkelingskonteks, te evalueer. Die hoofdoelwitte is om die teikengroep se huidige kennis van gedrukte inligting te bepaal asook om die elemente van die teks – soos waardering, begrip en aanvaarding – te ondersoek. Hierdie studie poog ook om demografiese en sosio-ekonomiese faktore as moontlike stuikelblokke in die effektiwiteit van kommunikasie in 'n ontwikkelingskonteks te verken.

Die argument is dat die lewensvatbaarheid van en die vooruitsigte vir effektiewe kommunikasie met die ontluikende boere afhang van twee interverwante aspekte, *vis-á-vis* bruikbaarheid en effektiwiteit. Eerstens is bruikbaarheid die mate waartoe 'n "kommunikasieproduk" soos die inligtingsbrosjure gebruik kan word deur spesifieke gebruikers om spesifieke doelwitte te bereik met effektiwiteit, doeltreffendheid en bevrediging in 'n spesifieke konteks soos landbou-ontwikkeling. Tweedens is effektiwiteit die volledigheid en die akkuraatheid waarmee die gebruikers spesifieke doelwitte bereik. Dit hang dikwels af van die aanbieding van inligting op 'n wyse wat vir gebruikers verstaanbaar is.

Doak en Doak (1996:73) beweer dat, alhoewel daar baie tipes materiaal is wat geskik is, die meeste huidige inligtingsdokumente tekortkominge het wat hulle moeilik maak om te verstaan. 'n Ernstige tekortkoming sluit in té veel inligting in die dokument, wat gebrekkige lesers ontmoedig en wat neig om die prioriteit van inligting vir alle lesers te verbloem. Soms word die leesbaarheidsvlakke té hoog vir die gemiddelde persoon. Die leser word nie versoek om in interaksie te tree met die materiaal nie, wat veroorsaak dat die geleentheid vir leer en retensie verlore gaan. In die meeste gevalle word moeilike, ongewone woorde selde verduidelik deur voorbeelde.

Research on usability and effectiveness of a printed information booklet

Hierdie is 'n empiriese studie wat poog om die wêreld van navorsingsubjekte, in hierdie geval ontluikende boere, met die minimum voorafopgestelde idees te benader en om die onderhawige fenomeen waar te neem, by name bruikbaarheid en effektiwiteit. Die het 'n oorwegend beskrywende aard en fokus op die onderskeidende karaktereienskappe van teksfokus, kundige oordeel en leser-/gebruikerfokus. Ten spyte van die oorweldigende bewyse dat bo-na-onder kommunikasie oneffektief is, heers hierdie praktyke. Dit is in hierdie konteks wat dit nodig is om 'n beter idee te genereer wat gebed is in geïntegreerde kommunikasie as 'n vars benadering tot die ontwikkeling en bemagtiging van mense deur die lig van kennis.

Hierdie probleme is ondersoek gedurende die navorsing wat uitgevoer is onder ontluikende boere in die Noordwes Provinsie van Suid-Afrika. Die brosjure is ook ge-evalueer met die doel om uit te vind watter betekenis die ontvangers in die brosjure oor sonneblomproduksie heg aan die inligting wat oorgedra moet word. Daar word dus gevra of hierdie boodskappe werklik die gewenste impak het. Die navorsing het bevind dat die materiaal nie geskik is vir die teikengehore nie.

Die bevindinge van die studie het waardevolle inligting vir boodskapontwerp in ontwikkelingskommunikasie verskaf. Dit is duidelik dat daar na die verspreiding van ontwikkelingsinligting in die landelike konteks gekyk moet word alvorens bruikbaarheid en effektiwiteit kan plaasvind. Die studie ondersteun die hipotese dat wanneer die aanbieding van ontwikkelingsinligting nie geskik is nie, effektiewe kommunikasie nie sal geskied nie.

Research on usability and effectiveness of a printed information booklet

TABLE OF CONTENTS

CHAPTER 1

BACKGROUND OF THE STUDY

Research on usability and effectiveness of a printed information booklet

CHAPTER 2

LITERATURE REVIEW (TEXT COMPREHENSION)

CHAPTER 3

TEXT COMPREHENSION IN DEVELOPMENT CONTEXT

Research on usability and effectiveness of a printed information booklet

Chapter 6

CONCLUSION AND RECOMMENDATIONS

Research on usability and effectiveness of a printed information booklet

LIST OF REFERENCES

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Research on usability and effectiveness of a printed information booklet

Chapter One

CHAPTER 1

BACKGROUND TO THE STUDY

1.1 INTRODUCTION

The question, "What is information"? Has been frequently raised in the literature. The American Library Association, as quoted in List (1998: 212), defines information as: "All ideas and imaginative works of the mind that have been published repeatedly and/or distributed formally or informally ". Information can mean different things to different people under different circumstances. The point of departure in this research is that *information is a development resource.*

1.2 INFORMATION AND DEVELOPMENT

Development resources are sources that a community utilise to fulfil its basic and its advanced human needs. Some of the resources include finance, education, health-skilled personnel, infrastructure and appropriate environments in which to perform tasks, raw materials and information. It is not just the availability of these resources that facilitates development, but rather the use thereof in a specific context. According to Stonier (1996: 21) information is as important today as it always has been and its use is implicit in the existence of man and the fulfilment of everyday needs. Society depends on it.

It is in this context that this study examines whether or not a specific example of development information (an agricultural information booklet on the production of sunflowers) disseminated amongst a disadvantaged rural farming community in South Africa is delivered in a way that can be understood by that community.

The hypothesis is that in many instances in development communication, messages are disseminated to disadvantaged communities, but the target

Research on usability and effectiveness of a printed information booklet

Chapter One

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audience either assign a different meaning to the message than the meaning that the sender wanted to convey (Mody 1991), or the target audience sometimes does not understand the message at all.

Hence this study will conduct research on the usability and effectiveness of printed information booklets developed for small-scale rural farmers to explore whether demographic and socio-economic factors act as possible barriers to the effective communication of information in a developmental context. Reader-focused evaluation that concentrates on the reader-text relationship in particular will be used. According to De Jong and Schellens (1997: 404) the reader-text relationship is a complexity of text features, which is often referred to as the usability, or the effectiveness of the text. De Jong and Schellens's model of evaluation (1997: 404) is used in the evaluation of the development communication text in the study.

The developmental context, in which the communication process takes place, compounds the difficulty of understanding the message correctly. According to O'Sullivan (1994: 50), *communication* is "… a process of negotiation and exchange of meaning, in which messages, people in cultures and reality interact so as to enable meaning to be produced or understanding to occur".

Communication is part of the very fabric of society and serves as the web that holds together the individuals, groups and institutions from which society is made. Seeing that communication is at the core of every social system, it influences all aspects of development work. Without communication no society can exist, develop or survive.

Research on usability and effectiveness of a printed information booklet

Chapter One

Development communication is defined as communication for planned change to a more elaborate definition as it uses media in the process of motivating, educating, and mobilising a target population to respond to planned programmes of change in health, education, agriculture, nutrition, family planning programs and other sectors of development (Agunga 1997).

In the discourse on the development of Africa, it is often argued that information/knowledge is the key to development because "knowledge is power" "the engine of growth" (Adesia 1998: 1). However there is a difference between information delivered or communicated by mass produced messages and the creation of knowledge. "True knowledge is more than information. It includes the meaning or interpretation of the information" (Panos Institute 1998: 1).

Information transferred in a developmental context is not always understood. The consumers of messages or information must understand the content thereof. In a South African developmental context this is not always the case. (Snyman 2002: 42) states it eloquently: "Knowledge, the prerequisite for power and growth, grows from the sense people make of information delivered to them. It may just be possible that the attempt to bring the light of knowledge to South Africans, historically deprived of information, often fails."

1.3 PROBLEM STATEMENT

When development information is provided, the relevant content must be supported by an appropriate presentation, if information products are to have the desired impact. *The researcher believes that in most instances the content might be appropriate, but if the presentation is inappropriate the communication process will not be successful.* This will result in information not being comprehended by the target audience for whom it is intended.

Research on usability and effectiveness of a printed information booklet

Chapter One

1.4 HYPOTHESIS

When the presentation of development information is not appropriate, the communication will not be successful.

1.5 GENERAL RESEARCH AIM

The purpose of this research is to establish whether or not an agricultural information booklet targeted at small-scale farmers in a South African rural area is usable and effective, or whether there are demographic and socio-economic factors that act as barriers to effective communication in a developmental context such as this.

1.6 RESEARCH OBJECTIVES

In order to gain clarity as to how the development information (i.e. the agricultural information booklet) meets the needs of the targeted audience (i.e. small-scale rural farmers), the research objectives emanating from the general research aim are:

1.6.1 To ascertain the level of *comprehension* of the agricultural information booklet by the small-scale rural farmers;

1.6.2 to determine the target audience's perception of the *attractiveness* of the booklet;

1.6.3 to assess the *value* that the development information (agricultural information booklet) has for the target audience (small-scale rural farmers).

1.6.4 to establish if demographic and socio-economic factors of the target audience act as *barriers* in the effective communication of the development information?

Research on usability and effectiveness of a printed information booklet

Chapter One

1.7 THEORETICAL DOMAIN

As it has been stated, the context of the current study is a developmental context. For this reason the theoretical domain will be development communication. A short definition of respectively *communication* and *development communication* have already been given, but to further clarify the sub-fields in the theoretical domain, further elaboration is required:

- *Communication* is defined as a "process in which a source makes data available to a recipient by means of a channel, signs and symbols with the intention of letting the recipient process data into information with a meaning intended by the source" (Marchant 1988: 53).

- *Communication channels* are in essence the modes used by people to obtain information or to convey messages and it is the physical form or aspect of media in which messages are transmitted, whether oral, written or technological which includes printed media, auditory, visual and audiovisual media (Littlejohn 2002).

- *Development* is defined as a widely participatory process of social change in a society intended to bring about both social and material advancement (including greater equality, freedom, and other valued qualities) for the majority of the people through their gaining greater control over their environment (Rogers 1976: 41).

- *Development communication* is according to Malan and Grossberg (1998: 52) "All forms of communication that are used for the improvement of an individual, community or country's material, cultural, social and other conditions".

Research on usability and effectiveness of a printed information booklet

Chapter One

Nair and White (1994) add the so-called new perspective on development communication that comes from the recognition that the increasing accepted concept of participatory communication in development communication should bring about a more "people-centred", rather than "economic-centred" focus to the process of development, and development communication in particular.

Chapter 2 will deal in greater detail with the context of the study, for the purpose of clarifying the theoretical domain; the following short definitions will suffice.

- *Participatory development communication* is a two-way, dynamic interaction, between grass-roots receivers, the information source, mediated by development communicators, which facilitates participation of the target group in the process of development (Agunga 1997).

The picture will not be complete without adding the importance of social change:

- *Social development* is a process of planned social changes to promote the well being of the population as a whole in conjunction with a dynamic process of economic development (Midgley 1998: 5). According to Bell (1992: 12) social development can be defined as the greater capacity of the social system to utilise resources to generate favourable changes in the level of living, interpreted in the broad sense as related to accepted social values and a better distribution of income, wealth and chances.

Research on usability and effectiveness of a printed information booklet

Chapter One

1.8   CONCEPTUALISATION OF THE THEORETICAL FRAMEWORK

According to Royce (1991: 129) concepts serve the function of communication, sensitisation of experience, generalisation and theory construction. These concepts have to be clear, precise and agreed upon.

1.8.1 Theoretical concepts

The following concepts, *usability, effectiveness, demographic* and *socio-economic factors* are pivotal to the study:

- *Usability* refers to: " … the degree to which documentation can be effectively used by target readers in the performance of tasks under environmental requirements and constraints" (Guillemette 1989: 217).

- *Effectiveness* on the other hand is defined in terms of reader performance with written materials and acceptability of those materials to the reader. Basic human performance dimensions include efficiency (speed) and bias (accuracy) in performing tasks. "Readers themselves are the primary source for reporting perceptions of tiredness, comfort, boredom, frustration, or excessive personal efforts in using documentation" (Guillemette 1989: 218).

- *Demographic factors* refer to population composition and population dynamics. Population composition has to do with description of the characteristics of a given population (whether of a nation-state or a province or ethnic group). The population can be described through the use of parameters such as size, age distribution, geographic distribution, ethnic and/or religious makeup. Population dynamics deal with changes in the

Research on usability and effectiveness of a printed information booklet

composition over time in terms of natural increase or decrease (birth minus death) and migration (either internal or international).

- *Socio-economic factors* are the combination of social factors such as cohesion, infrastructure, availability of resources and the interaction level of the community whilst economic factors include availability of money, the level of deprivation of people as well the vitality of the internal economic system of the community which influences a community member's life.

1.8.2 Theoretical constructs

As reflected in the title of the study, the main theoretical concepts are: *usability* and *effectiveness*. The constructs that underlie these two theoretical concepts need to be agreed upon for the purpose of the current research:

- *Usability*

  The construct that forms the first major concept, namely *usability* is the target audience's assessment of the *value* of the massage. If the target audience ascribes a high level of value to the written message, they will use the message.

- *Effectiveness*

  The construct that forms the second major concept, namely effectiveness relates to the target audience's performance level with the written message, namely their *comprehension* of the message and their perception of the attractiveness of the message.

  Both these two concepts will be elaborated upon in Chapter 2.

Chapter One

1.9 DEFINITION OF OTHER TERMS

For the sake of comprehensiveness, the following definitions from the printing industry are included:

- *Brochures/booklets* or *pamphlets* are defined as small thin booklets giving information and instructions or details of a message and service offered for money, for example; holiday brochure, advertisement brochure and agricultural booklet (Longman's dictionary 2002).

- *Design/Create* refers to the field concerned with creating texts that integrate words and pictures in ways that help people to achieve their specific goals for using texts (Schriver 1997: 10).

- *Printed media* refers to documented information like hard cover books, paperbacks, periodicals, newspapers, magazines, pamphlets booklets, brochures and visual publications (such as photo stories and comics) which are used to communicate formally with the public.

1.10 RESEARCH METHODOLOGY

The researcher will conduct an empirical research. This type of research has a predominantly descriptive nature and its aim is not to determine best practices of usability evaluation approach (Berg 1998).

There are three kinds of usability testing for printed texts methods indicated by (Schriver 1997) namely:

Research on usability and effectiveness of a printed information booklet

Chapter One

1. Text-focused methods assess text quality by means of more or less general principles or guidelines, based on ideas or research about how readers respond to texts.

2. Expert-focused method use feedback by professionals who have expert knowledge about the subject, audience, or genre.

3. Reader focused methods use feedback from potential readers in the target audience. This will be used in this study. Reader focused methods are generally preferred because they give direct information about how the audience may respond to the different aspect of text quality (Schriver 1997).

1.11 RESEARCH DESIGN

According to Zikmund (2000:57) researchers conducting exploratory studies should select one or more exploratory research techniques. There are different categories of techniques available to obtain clarity and insight into the question at hand. This exploratory study includes a survey with structured open-ended interview schedule. The research is therefore based on empirical evidence gathered by the interviews and focus group discussions. Face-to-face interviews are to be used to obtain in-depth feedback.

1.12 SAMPLING

The ARC commissioned the researcher and played a role in sampling. The sample of this study was chosen on the subject of purposive/convenience sampling which is a non-probability sample consisting of respondents or subjects who are available (Wimmer and Dominick 1994: 472).

1.13 RESEARCH STRATEGY

The following data collection methods are envisaged to be used:

Research on usability and effectiveness of a printed information booklet

Chapter One

1. Document analysis and evaluation of a sunflower production booklet) produced by the Agricultural Research Council.
2. Focus group discussions with small-scale rural farmers as well as
3. Individual interviews.

1.14 RESPONDENTS

The respondents are small-scale rural farmers in the North West province of South Africa. The North West Province was chosen because of its background and experience in rural farming as well as in non-commercial crop farming.

1.15 STIMULUS MATERIAL

As stated before, this study focuses on the evaluation of an agricultural information booklet amongst small-scale rural farmers in South Africa as an example of development communication. The stimulus material selected is titled: S*unflower production booklet: A concise guide on how to produce sunflowers.* The booklet is produced by the Agricultural Research Council of South Africa (ARC).   The ARC produces many information booklets and pamphlets about best agricultural practices for all farmers.   The ARC selected this booklet for evaluation because it is due for reprinting and they need to know whether it fulfils its purpose.

1.16 DELIMITATION'S OF THE STUDY

This study only focused on the areas visited in the in the North West province of South Africa.   The province was chosen because of its background and experience in rural farming as well as in non-commercial farming. It is possible that the respondents could have given the responses that the researcher wanted to hear.   Where this happened, the results of this study would have been influenced.

Research on usability and effectiveness of a printed information booklet

Chapter One

1.17 THE IMPORTANCE OF THE RESEARCH

To improve the level of comprehension of messages in a development communication context usability evaluation research is often utilized. In this field of technical communication, questions are asked about whether documentation (such as pamphlets, booklets and information brochures) meet the requirements that were set for them. In this field there is a growing awareness that usability evaluation research can be a fruitful way of monitoring, improving and maybe even guaranteeing user-friendliness and the effectiveness of these kinds of documents in development communication.

It is hoped that the findings of this study will indicate shortcomings in the design and production of development messages. Designers of messages should know to whom are they writing. This can produce meaningful results that can improve material. It is important for this study to engender ideas and strategies to be followed when designing development messages in the South African development communication context.

The study will hopefully improve communication relationships between developers/producers and their target audiences. Seeing that the role of relationships in development is still not appreciated and understood by many, the findings can also be used as the foundation for further research and development in this field.

1.18 DEMARCATION OF THE STUDY

Chapter 2 (literature review) introduces the background and the nature of information materials and its shortcomings, how the audience read the text, the Kintsch model and the readers memory of the text, reception theory, reader response theory, as well as White's approach to the reception theory.

Research on usability and effectiveness of a printed information booklet

Chapter One

A brief discussion of participatory communication theory, the evaluation model in terms of evaluating text quality is also included.

Chapter 3, discuss the South African rural context and its lack of information. This includes aspects for example: the illiteracy problem, that lead to the cause of non-successful communication in the developmental context.

Chapter 4, discusses the methodology used in the empirical research, and provides the rationale for the qualitative study and its exploratory and descriptive nature. The research design is described in terms of the sample used, e.g. data collection methods namely: document analysis, focus group discussions, and the individual interviews.

Chapter 5 reports on the research process and the fieldwork.

Chapter 6 describes the findings of the research process, the problems encountered and the analysis of the interviews, focus groups and individual interviews.

Chapter 7 gives a conclusion on the research findings and provides recommendations, which incorporate proposed guidelines and action before designing any message, especially developmental messages for communication.

1.8 SUMMARY

In this chapter the background for undertaking the study on the usability and effectiveness of an agricultural information booklet amongst small-scale rural farmers in the North West Province was given. The problem, purpose, objectives and the significance of the study are stated, as well as the operationalisation of the theoretical concepts within the theoretical domain.

Research on usability and effectiveness of a printed information booklet

Chapter One

Having introduced the background of the study in chapter 1, the next chapter looks at the literature review consulted for this study.

Research on usability and effectiveness of a printed information booklet

CHAPTER 2

TEXT COMPREHENSION

2.1 INTRODUCTION

This chapter provides a review of the literature on the comprehension of written texts. The emphasis of the discussion will fall on so-called low literate readers or poor readers, as they are mostly the target audiences in development communication messages. Special focus is placed on the two main concepts of the current study, namely usability and effectiveness of printed material. The first part of the chapter discusses the general prerequisites for comprehension in all written texts, while the latter part explains how these preconditions become more important when the message that is conveyed is put in a development communication context.

2.2 READING AND COMPREHENDING PRINTED TEXTS

Doak and Doak (1996: 73) argue that although some materials are suitable, most current information documents for low literate people have shortcomings that make them difficult to understand.   Some of the most serious of these shortcomings, as highlighted in the literature, are:

- too much information is included in the document;
- sometimes the readability levels of the text are too high for the average person;
- the reader is not asked to interact with the material, so the opportunity for better learning and recall is lost ; and,
- In most instances, difficult and uncommon words are seldom explained by using appropriate examples.

Chapter Two

These conditions discourage poor readers, who are unable to interpret the information in the documents and it tends to obscure the information for all readers.

Researchers in text comprehension (Foltz, 1996: 4) have examined a variety of factors that influence comprehension. These factors include, amongst others, the following:

- the role of coherence in a text,
- the role of the reader's background knowledge,
- the role of the narrative schema of the text and
- the role of the reader's cognitive abilities.

In addition to this, are strategies that readers use when going through a text and the role that these strategies play in comprehending a text?   If we take the view that the meaning of a text arises at the point of encounter between the text and the reader, then there can be as many meanings as there are readers. If we take the view that the text contains its own meaning and all we have to do is look to the text to find that meaning, then there should be only one, or at least very few meanings. Fish (1980: 173) found that: "… we don't, in fact find either of those extremes." Why, as Fish puts it, if the text contains its own meaning, do we find so much disagreement on what the meaning is? If individual readers create the meaning, is there so much agreement? In an attempt to answer these questions, Fish (1980) developed the notion of the *interpretive community*. According to him, there can be no objective knowledge as it is always socially conditioned.

Researchers in the field of text comprehension have used models to predict what information will be learned from a linear (written in this case) text. One primary approach has been to examine comprehension using different models of text comprehension. One such a model is the Kintsch model of text comprehension (Kintsch & Van Dijk 1988).

Research on usability and effectiveness of a printed information booklet

Chapter Two

2.3 THE KINTSCH MODEL OF TEXT COMPREHENSION

The Kintsch model has been used for predicting the comprehension of texts based on such factors as what features will be remembered from the text, the role of background knowledge, the role of coherence and readability (Kintsch & Kintsch 1991).

When reading a linear text, processing occurs at many levels. These levels range from the low-level processes of recognising individual words up to high level processes of deriving the general idea of the information in the text. These processes work together simultaneously to extract meaning from the text. Meaning, however, is represented at different levels (Doane et al 1990).

In the Kintsch model, the reader's memory of the text is represented at three levels:

- a surface representation of the words and sentences;
- the meaning of the text (textbase); and
- a general representation of what is described by the text incorporating outside background knowledge (the situational model).

As a text is read, the text is incorporated into the reader's representation of the information. Information from the surface representation of the text is quickly lost. However, some of the abstracted information from the surface structure of the text is incorporated into the text base, represented as propositions. Propositions serve as semantic primitives representing the information acquired (Bransford & Franks 1980).

The Kintsch model of text comprehension is only one example of such models.

Research on usability and effectiveness of a printed information booklet

Chapter Two

2.4 FACTORS THAT INFLUENCE TEXT COMPREHENSION

As can be seen, many and varied factors influence the comprehension of written texts. Closer inspection of the factors that influence the comprehension of written text reveals that some pertain to the receiver of the message, while others are linked to the source of the message. That is the sender of the information or the producer of the text.

As it has been indicated that communication is important it is within this context that even the information material and its comprehension is guided by the communication model. In other words the sender of the message is the producer (i.e. ARC) and the channel is the written document, *(Sunflower production: A concise guide)* and the receiver is the audience, in the context of this study is the targeted population of (small-scale rural farmers). The question one need to ask is, does it have any impact to its targeted audience for communication to be successful?

The Communication model

Who ▶	**Says What** ▶	**Through which medium** ▶	**To whom?**

Under what circumstances?

For what purpose?

With what effect?
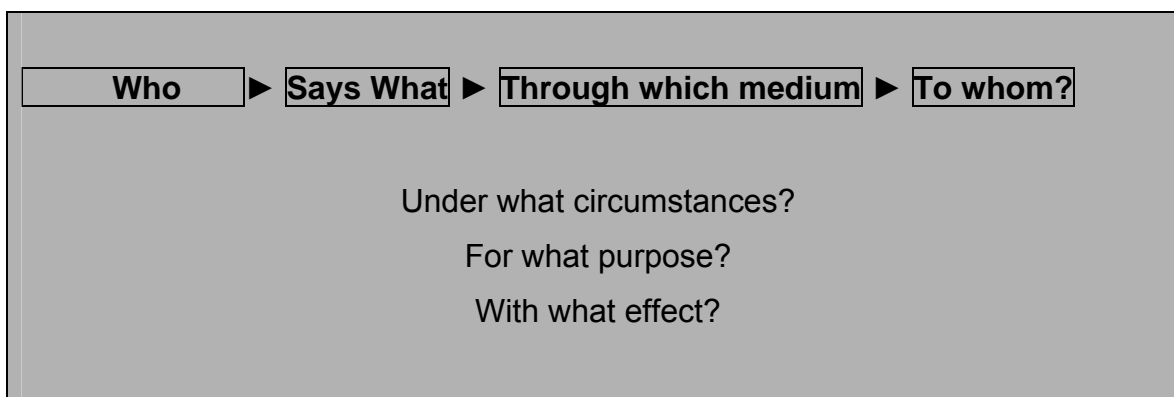
Figure 1. Lasswell Formula on communication model (Mquail & Windahl 1981:11).

For the purpose of the discussion here, this distinction will be used:

Research on usability and effectiveness of a printed information booklet

Chapter Two

2.5 COMPREHENSION FACTORS OF THE RECEIVER

Two factors that can be singled out on the grounds of their importance and applicability to all written texts in a variety of contexts or circumstances are: (i) the background knowledge of the reader, and (ii) the reader's ability to comprehend texts. These two factors will be discussed briefly before the focus will be shifted to the sender of the message.

2.5.1 The receiver's background knowledge

As a text is read, the reader is decoding it and incorporating the textual information into his/her knowledge base. The key to incorporating the information into the reader's knowledge base is partly dependent on the amount of background knowledge the reader has. A reader's background knowledge permits the information to be incorporated into pre-existing knowledge structures. So, it is logical that readers who do not have an adequate amount of background knowledge on the subject of a text will have a lower comprehension of the text (Versonder & Spilich 1980).

The background knowledge permits the reader to provide coherence to the text, permitting better bridging inferences between non-coherent sections and also permitting additional elaborative inferences. In addition, there is evidence that the background knowledge influences the processing of information for developing at their situational model level, but not at the prepositional level (Greene & Voss 1991).

In linear texts, readers with background knowledge on the domain of the text will be better at encoding information from the text than those without the background knowledge. The high knowledge readers will have the correct conceptual structures in which to integrate the new information and therefore those readers will tend to have a better recall of the text.

Research on usability and effectiveness of a printed information booklet

Chapter Two

2.5.2 The receiver's reading ability

With the large amount of both high-level and low-level processing that must take place in order to comprehend a text, one can expect differences in comprehension based on the reader's abilities. "Skilled readers tend to have better skills at exploiting context cues and other textual constraints. They are able to make better hypotheses about the meaning of words, and are more responsive to the rhetorical structure of the text" (Perfetti & Roth 1981: 21).

On the other hand, the poor reader's decoding skills are not as effective and instead they compensate through using context-dependent hypothesis testing. Thus, skilled readers are able to use parallel automatic processing to form better hypotheses about the meaning of the text as they read through it and are not as dependent on the contextual cues of the text. In this manner, if contextual cues are missing or are confusing, then the poor readers will be degraded to an even greater extent (Perfetti & Roth 1981). Skilled readers of linear texts are more responsive to the rhetorical structure of the text and possess better decoding skills. In contrast, poor readers must rely more on the context to help in decoding (Meyer, Brandt & Roth 1981).

According to Schriver (1997: 163): "… the writer frequently takes too much for granted, assuming that merely by speaking his mind he can change the reader's. If he fails, however, to utilize available bridges or to create new ones, his writing will not be effective".

Research on usability and effectiveness of a printed information booklet

Chapter Two

2.6 COMPREHENSION FACTORS FROM THE SENDER

When shifting the responsibility of comprehension to the sender or the producer of the written messages, definite lessons can be learned from expensive mistakes of the past.

Production planners, media workers and subject specialists can avoid expensive mistakes by making pre-production visits to the audience community. For example, what would people say about physicians who prescribed medicine without examining their patients? Are development communication media producers doing something similar as they work to promote development of their nation? (Mody 1991).

The effectiveness of public information brochures depends on the extent to which they are tailored to suit their readers. Often readers from the target audience appear to react in unpredictable ways to the information presented in brochures as members of media audiences themselves, the message designers, attend to the information that interests them.

Is it reasonable for message designers to find out what their intended audience wants to know and in what form the information will get their attention before they begin to design messages for others (Jansen & Neutalings 1998: 60). Formative evaluation, particularly in the form of a pre-test among a sample of potential readers, is therefore considered to be a rewarding step in the design process of information materials.

De Jong & Schellens (1997) state that many urban mass media producers and subject experts feel that the reasons for miscomprehension of their development communication lie in the illiteracy of their rural audiences. They continue to say that readers miscomprehend about 21% of the meaning contained in the typical

Research on usability and effectiveness of a printed information booklet

magazine articles with an additional average of 16%. The difference between televised content and print content is that formal education and income are significantly related to miscomprehension of print. The root of the miscomprehension problem seems to be the natural human tendency to make inferences. Audiences exposed to communication make inferences regarding the topic, which they believe to be true and to have been explicitly, stated when it was not (De Jong & Schellens 1997).

In practice, however, the formative evaluation phase in document design process is often neglected. Many printed information messages are not evaluated systematically for their usability and effectiveness. Often the pre-tests that are carried out are inefficient, because their function in the document design process is unclear, and insufficient attention is given to the revision phase following the collection of reader feedback. Too often, pre-tests focus on the reader's overall impressions of information materials rather than on specific problems the readers are encountering while using the text (De Jong & Lentz 1996).

The *factors* that influence the comprehension of written texts were discussed from both the receiver's and the sender's perspective. It is now appropriate to focus on the actual comprehension of written texts in development communication.

2.7 READABILITY AND UNDERSTANDABILITY:
IS THERE A LINK?

Information must, however be usable to be effective. An obvious question to ask is: "Does it mean that if the receiver can read the message, he/she will be able to understand it and this will then imply that the message is effective?"

This question begs a discussion of the obvious link between readability and understandability.

Chapter Two

2.7.1 Readability

Readability is a necessary but inadequate basis for assessing usability of the material. The reader may (for example), face difficulty in locating needed information or in establishing links between documented material and the task situation. A suitable context for reading and learning especially for the development of rural communities, involves according to Guillemette (1989: 220) a number of qualities:

- simplicity in language and layout;
- compatibility (naturalness) of technical information with prior reader background and knowledge;
- consistency (predictability) in language and layout; and
- self-containedness of information for the reader to attain basic objectives, that is, minimise the need for reader inferences or integration

Wright (1989: 67) provides a useful documentation design heuristic, which describes three broad categories of reader activities, namely: searching, understanding, and applying written materials.

Search activities focus on what readers do and know before encountering the information. Readers may engage in different types of search activities. Wright distinguishes between two different types of searching related to occupational reading: reading-to-do and reading-to-access. Reading-to-access activities occur outside the context of an immediate task. Readers may engage in ongoing information search activities in order to build a bank of potentially useful information material for future personal use or dissemination to others.

Exploratory studies of occupational reading behaviour reveal that many readers prefer to browse through material rather than use available content listings. Typographical cues such as meaningful segmentation and indentation of material

Research on usability and effectiveness of a printed information booklet

Chapter Two

can influence a reader's success in locating and understanding information (Wright 1989).

2.7.2 Understandability

Understandability of the documentation is influenced by factors such as language, representational forms, perceptual characteristics, and reader expectations. One common distinction is between procedural and declarative knowledge. Understandability of procedural information is often enhanced with the use of alternative representations, such as lists, tables and flow charts. The learning of declarative knowledge is influenced by text organisation factors. The amount and quality of recall can be affected by events occurring prior to reading and events after reading (feedback and post questions).

Readers may encounter problems in *applying* new information even if the material is understandable. This type of error is usually due to problems of cognitive load. "Documentation contributes to memory failure when the reader is required to process long or complex text, to integrate information sources, or to translate, transform, or reorganise material into a more recognizable or useful form" (Guillemette 1989: 219).

2.8 USABILITY AND EFFECTIVENESS

In the same way that there is an obvious link between readability and understandability, one can distinguish between usability end effectiveness, but they cannot be separated from each other. Guillemette (1989: 217) states it very aptly: "The term *usability* refers to the degree to which documentation can be *effectively* used by target readers in the performance of tasks under environmental requirements and constraints (own emphasis).

Research on usability and effectiveness of a printed information booklet

2.8.1 Usability

Long (quoted in Guillemette 1989: 59) distinguishes between three general "usability requirements where, documentation must be usable":

- for a particular group of readers;
- to perform specific tasks; and
- in a certain physical and social environment.

Documentation is *reader*-usable if it can be effectively used by alternate groups of readers possessing expected competencies, skills, and knowledge. It is *task*-usable if readers are able to retrieve and process needed information quickly with minimal physical or mental effort. It is *environmental*-usable if the documentation is accessible when and where it is needed and can be used within existing time and economic constraints (Guillemette 1989: 218).

The utilization of documentation is a function of its usability and its functionality. Functionality refers to the technical capabilities of the documentation. What readers can do with the documentation, depends to a considerable degree on its technical design, such as the coverage of relevant topics and the presence of access structures.

Usability is essentially concerned with the process of using the documentation. One important aspect is readability, or the degree to which target readers are able to understand printed material, are able to read it quickly, and therefore, find it interesting. As can be seen in the section above where readability was discussed, the assessment of readability involves a consideration of various aspects of the reading situation, such as content, organisation, format and style of documentation, reader background, skills and motivation and certain environmental variables (Guillemette 1989).

Chapter Two

The literature study indicated that the word "usability" has become a catch phrase for a product that works better for their users. It is however difficult to pin down just what people mean by the concept usability.

One of the definitions of usability is: "… the extent to which information materials can be used by specific user's to achieve specific goals with effectiveness, efficiency and satisfaction in a specified context of use" (Quesenbery 2001: 1).

In general, four different meanings that can be described as four key requirements of usability exist:

- *Usability means thinking about how and why people use a product*
  Good technical writing, like good interaction design, focuses on the user's goals. The first step in creating a usable product is to understand those goals in the context of the user's environment, task or workflow, and letting these needs guide the design.

- *Usability means evaluation*
  Usability relies on user-feedback through evaluation rather than simply trusting the experiences and expertise of the designer. Usability evaluation involves watching real people use a product (or prototype), and using what is learned to improve the product.

- *Usability means more than just "ease of use"*
  The so-called five "E's", namely effective, efficient, engaging, error tolerant and easy to learn, describe the multi-faceted characteristics of usability. Interfaces such as information booklets are evaluated against the combination of these characteristics that best describe the user's requirements for success and satisfaction.

Research on usability and effectiveness of a printed information booklet

Chapter Two

- *Usability means user-centred design*

  Users are satisfied when an interface is user-centred. That is when their goals, mental models, tasks and requirements are all met. The combination of analysis, design and evaluation all approached starting from the user's point of view creates usable products.

2.8.2 Effectiveness

Effectiveness, as the second concept in the study, is defined as the completeness and accuracy within which users achieve specified goals. It is determined by looking at whether the user's goals were met successfully and whether all work is correct (Quesenbery 2001: 2).

It can sometimes be difficult to separate effectiveness from efficiency, but they are not the same. Efficiency is concerned primarily with how quickly a task can be completed, while effectiveness considers if the text has a desired effect.

The quality of the user assistance built into the booklets can have a strong impact on effectiveness. The effectiveness of a booklet often relies on the presentation of choices in a way that is clearly understandable to the user. The more informative a booklet is, the better users are able to work with it without problems. Good booklet terminology will be in the users language and appropriate to the task.

With regard to this study, one has to decide which aspect of effectiveness and usability should be evaluated. A productive way of examining the kind of text characteristics that can be included in a reader-focused evaluation is to break down the overall concept of effectiveness into a series of conditions for effectiveness (De Jong and Schellens 1997).

Research on usability and effectiveness of a printed information booklet

Chapter Two

2.9   EVALUATION RESEARCH

Evaluation research is defined as a systematic collection and analysis of evidence to aid decision making on the effectiveness and utility of a particular product or service for specific users.   This kind of research is designed to facilitate decision-making in a specific setting. The findings of it are not meant to be generalised to production settings at other times or places although there may be lessons that can be drawn from one situation to another.

Evaluation principally focuses on establishing merit. The assessment of value or worth involves the formulation of relevant goals or objectives. Evaluation is also applied in nature evaluations serve a number of purposes such as assessing the attitude, and performances of readers or documenters, judging the overall quality and various features of documentation activities and diagnosing physical and organisational factors which impact on reading and writing performance (Guillemette 1989: 222).

On the other hand comprehension testing of information booklet has been a widely used retrospective measure in evaluating text quality.   Basically, it involves asking readers to paraphrase, recall, summarise, recognise or draw inferences about particular text items or textual features (Rosenbaum 1989: 250).

2.10 AN EVALUATION MODEL

In order to look at the suitability and the value of the printed information material the evaluation model as adapted from De Jong and Schelles is important.

28

Chapter Two

According to De Jong and Schellens (1997: 404) the following conditions are useful for differentiating between the focuses of various evaluation methods:

- *Comprehension*:

  Readers must correctly understand the information given. When major comprehension problems arise, the wrong message or no message at all is communicated.

- *Application:*

  This condition can be seen as an extension of the preceding one, particularly in the case of instructional documents, such as user manuals, comprehension alone are sufficient. In addition to begin to able to make sense of the information they are given, readers must also be able to apply it in a productive way and in a realistic setting.

- *Acceptance*:

  The intended readers should find the statements in the text as acceptable and credible as possible. Behavioural advice must be seen to be relevant and realistic, factual statements must be considered true, company policy must come across as fair and reasonable, and value judgement in the text must be endorsed.

- *Appreciation:*

  The readers must appreciate the way the information is presented. This condition covers various aspects, such as the tone of writer-reader relationship, or the familiarity or aesthetic quality of the formulation. It also includes reader's assessment of figure illustrations, and layout.

Research on usability and effectiveness of a printed information booklet

Chapter Two

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- *Relevance and completeness:*

  Finally, a text must contain the right information for its intended readers. The information that is given must be new and relevant to the readers. And it also must be complete; readers should not be left with any important question on the topic remaining unanswered.

2.11 CONCLUSION

In this chapter a literature review about aspects related to the study was conducted. Information was supplied on how texts and documents are read and interpreted. This chapter also discussed the general prerequisites for comprehension in written texts, as well as how these preconditions become more important when the message that is conveyed is for a target audience in a development communication context. The next chapter looks at the theories of text comprehension and its relationship with its context in more depth.

Research on usability and effectiveness of a printed information booklet

CHAPTER 3

TEXT COMPREHENSION IN DEVELOPMENT CONTEXTS

3.1 INTRODUCTION

The goals of text comprehension research are to understand what factors of the reader and the text influence the ease of comprehension a text and to make some reader's knowledge and abilities. The following information explained will be able to both develop better texts and better understanding of the human comprehension processes.

3.2 THE ROLE OF THE CONTEXT IN TEXT COMPREHENSION

It is accepted that the context in which messages are produced and received cannot be ignored, if effective communication is to take place. This is an even greater problem in a pluralistic society, because it can be expected that in the production of messages for *development*, the codes used may exhibit major disparities or inadequate areas of overlap.

Snyman (2002:46) is therefore of the opinion that greater sensitivity to these presumed disparities should be exhibited in a development context. Messages produced to communicate development information should be structured in such a way that they actually communicate the intended information effectively. Only then can development messages assist in extending knowledge that could lead to desired action that could improve quality of life and in essence empower the recipients of the message.

Chapter Three

The readability mismatch leads to another undesirable result, a reduction in motivation to comply with the written information or instructions. When people struggle to read and understand the information in the document, they become discouraged and lose a sense of self-efficacy. They may feel that if it is so difficult to read, it is probability too difficult to do anyway, so why try?

3.3 THE RECEPTION THEORY

Reception theory contends that every story is told by someone, an author (or a sender) who creates a representation of reality that is conditioned by language. Culture and ideology to someone (an audience or the receiver'(s)) who has the critical ability to understand the codes used by the author (Iser, quoted in Fish 1980). Thus meaning does not reside only in the words on the page or images, but comes alive in the mind of the reader and the text, that is the minds of the recipients.

This theory further assumes that one can no longer talk about the meaning of the text without considering the reader's contribution to it. Reception theory, therefore emphasise the *active role* of readers in the process of reading and the gratification they derive from reading a text.

3.4 RECEPTION STUDIES: TEXT AND CONTEXT

According to the reception theory, a text only becomes meaningful through the process of reading. In reception studies the relationship between text and context is crucial. The idea of the reader's so called horizon of expectations is now seen as one component of an individual's cultural and social frame of reference (Segers 1978: 27).

Research on usability and effectiveness of a printed information booklet

Chapter Three

This presupposes major overlaps between the knowledge bases of many people including the sender which forms part of the potential common property of a specific social and cultural group without which communication is not possible (Van der Merwe 1983: 155, quoted in Snyman 2002).

These words emphasise the importance of the social and cultural context in which messages are produced and received (Fish 1980). The necessity of common grounds or a common codal system in communication is clearly stated "We are never not in a situation … A set of interpretive assumption is always in force" (Fish 1980: 637). A text is always received within the specific social context of an interpretive community. This provides a frame of reference that determines perception and interpretation. That is a receiver can only interpret a text according to the socially mediated knowledge and values of the interpretive community and this result that meaning is attributed to a text within a specific context (Snyman 2002).

It is however, not only the reception and interpretation of text in a specific context that is important. The production of a text also takes place within a specific context. "Interpretive communities are made up of those who share interpretive strategies not for reading but for writing texts, for constituting their properties" (Lategan 1992: 8).

"In other words, these strategies exist prior to the act of reading and therefore determine the shapes of what is read rather than, as usually assumed, the other way around" (Fish 1980: 10). Hansson (1992) addresses the issue of social pluralism in South Africa and stresses the need for a correspondence between the receiver's norms of interpretation and the sender's norms of interpretation. And suggests that a greater correspondence between the receiver's norms of interpretation and the sender's norms of interpretation must be achieved for effective communication to take place (Hansson, quoted in Snyman 2002: 45).

Research on usability and effectiveness of a printed information booklet

Chapter Three

3.5 RECEPTION STUDIES AND COMMUNICATION RESEARCH

According to (Snyman 2002: 45), a similar movement towards a more audience sensitive approach exist in communication studies. During the 1970s the study of media audiences focused on how audiences select media programmes according to their uses and gratifications. Since the mid 1980's a growing trend towards an analysis of how audiences actively construct meaning of the media became evident. As in reception studies, this trend focuses on the receiver. White (1994: 3) mentions that: "… reception study has been used by many to characterize the new approach to audience study, but audience interpretation theory may be a more accurate term".

In audience interpretation research the use of the media should be studied in terms of subjective constructions of meaning that are developed in response to the media. White (1994: 3) states its as follows: "The typical research methodology working towards interpretative theories of interpretation is some form of 'audience ethnography' which demands that the researcher reconstructs the meaning of the media from the subject's perspective."

Fiske's (1987), contributions in the late 1980's, although severely criticised, helped towards establishing the new theoretical perspective of the audience's active construction of meaning "(the reader writes the text) and the methodology of audience ethnography." In his book *Television, audience and cultural studies*, Morley (1992), "states explicitly that audience interpretation cannot be separated from the influence of the social context in which they occur".

Research on usability and effectiveness of a printed information booklet

Chapter Three

White (1994) mentions four approaches to what he calls, "audience reception/interpretation theory", namely:

- the Anglo-American critical cultural studies approach;

- the symbolic inter-actionist approach;

- the consensual cultural studies tradition; and

- audiences construction of meaning as the result of "mediation" between reasoning of production and consumption.

According to Snyman (2002), in the discussion, White never mentions reception studies known in literary theory, as a possible influence on this new trend in communication research. Nevertheless all four of White's approaches show commonalities with reception studies. These briefly include:

- focus on the receiver as a creator of meaning;

- the important role of context; and

- the interpretative community.

According to Lindlof (1988: 102) the interpretative community: " … share similar genres of interpretations common codes or intersubjective, agreement that are instantiated in ordinary acts of media selection, decoding and application."

- Morley's (1992), findings that people draw upon a composite and often unrelated and even contradictory social and personal histories, in their interpretation of texts,

- And the fact that the audience's construction of meaning is often different from the meaning that the producers wanted to convey (White 1994: 25).

Research on usability and effectiveness of a printed information booklet

Chapter Three

After looking at the theories of the text, the relationship of the reader and the text, as well as the approaches, one needs to look at the development communication as this study focuses on the development communication in a rural community in South Africa.

3.6 CHANGING PERCEPTIONS TOWARDS DEVELOPMENT COMMUNICATION

Efforts to harness communication and information technologies for planned development purposes have been going on for at least four decades. The terminologies and methodologies used to describe this area of work are many and varied: development communication, development support communication, project support communication, information-education communication (IEC), extension education, social communication, and so on.

Most of the early approaches to development communication were based on a transmission model of communication, where information was seen to pass from senders to receivers. As one development communication practitioner put it: "Development communication has largely remained a strategy of unidirectional marketing and monologue" (Rajasunderan as quoted in Yoon 1997: 6).

During the last thirty years, there has been a gradual shift from this hierarchical, top-down view of communication to a deeper understanding of communication as a two-way process that is interactive and participatory.

This change in perception about the nature of the communication process, coupled with the dramatic spread of democracy in recent times, are working in favour of more participatory decision-making at the local level and of communication as a part of the process. Simultaneously, some development communication practitioners have promoted the concept of community participation as an educational process in which communities, with the

Research on usability and effectiveness of a printed information booklet

Chapter Three

assistance of animators or facilitators, identify their problems and needs, and become agents of their own development.

3.7 THE PARTICIPATORY COMMUNICATION APPROACH

This focuses on participatory development concepts and community animation processes have provided a strong impetus to the evolution of participatory approaches to development communication.

There is now increasing recognition among development practitioners and planners that participatory communication is: " … the most promising approach for decreasing dependency, building self-confidence and self-reliance of the people" (Rajasunderan as quoted in Yoon 1997: 6). Despite the success of a number of participatory communication projects in developing countries, much remains to be done by way of research on complex issues related to operationalising participatory communication concepts.

The participatory communication approach was conceived more than two decades ago. Since then, its principles have enjoyed increasing influence over the work of development communicators. Today, these principles drive the work of a significant number of communicators from the NGOs, and to a lesser extent, the programs of government agencies (Yoon 1997).

The roots of participatory approaches in development communication can be found in the early years of the 1970s, when many people in the development community began to question the top-down approach of development dominant in the 1950s and 1960s, which targeted the economic growth of countries as its main goal.

Research on usability and effectiveness of a printed information booklet

Chapter Three

The participatory approach is appropriate with audiences, thus it is a marginal factor. In communication terms this audience-based approach implies making the audience the sender or source of the message as well as the receiver. The communication process is transformed from a linear, one-way, sender to receiver monologue to circular dialogue where representative members of the audience reach out to the production team, who then reach out to all other members of the audience (Mody 1991).

3.8 DEVELOPMENT COMMUNICATION AND CULTURE

According to Malan and Grossberg (1998: 160), development purpose stress that culture is no longer the only instrument of socio-cultural reproduction, but has become a primary resource and instrument of production. Moreover, the entire information revolution has a cultural basis. In their analysis of the profound influence that information will have in the coming economic revolution will change the nature of employment and even the nation-state.

Hence the close relationship between culture and communication is well known. The first sees it as a process by which A sends a message to B upon whom it has an effect. The second sees it as a negotiation and exchange of meaning, in which messages in peoples-cultures and reality interact so as to enable meaning to be produced or understanding to occur (O' Sullivan 1994: 50).

The other element is language, which has the effect of cultural differences. It is known that language is the most visible of the cultural differences and is also one of the more easily managed factors. Under most circumstances oral and written information may be translated. The tendency is to translate the pamphlets and booklets, directly from English into another language and give it to the person to read. This is seldom a productive approach because of cultural differences and literacy limitations. "The cultural 'baggage' of the English version may be unsuitable for another culture" (Doak & Doak 1996: 67).

Research on usability and effectiveness of a printed information booklet

Chapter Three

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The intellectual climate until now has not provided enough impetus for the evolution of participatory communication models, which step out of linear and positivistic thinking. Though awareness of such need does exist, from their point of view there has been sufficient interest in dialectical change and its implications is inherent in participatory processes.

Experience with the Human Science Research Council (HSRC) in South African research in rural and informal settlement communities shows that the development process is hampered by problems such as a lack of information and communication technology (ICT) infrastructure, illiteracy and inherent limitation of development guides. Communities are generally notoriously suspicious of the involvement of outsiders such as researchers and developers (Malan and Grossberg 1998).

It is clear that, particularly in rural areas, alternative forms of development communication (DC) and information should be explored. The challenge is to recognise and use local rationalism and prescriptions. The food and agricultural organisation of the United Nations (FAO) reports considerable success through its culturally sensitive development approaches, backed by its development support communication programme. A key factor of their accomplishment is attributed to culturally based community participation. "If we put the culture back into agriculture, perhaps the rural poor will get the chance to be the authors of their own development" (Malan and Grossberg 1998).

In developing this alternate paradigm of culturally sensitive development approaches for development communication, existing concepts were assessed and interrelationships among these concepts examined. The re-conceptualisation incorporates many of the concepts which are much talked about, i.e. "bottom up" development, grass roots involvement, participatory decision-making citizen empowerment, power sharing, indigenous knowledge

Research on usability and effectiveness of a printed information booklet

Chapter Three

and media, self reliance, egalitarian rights, participatory message development, media integration, team building, interpersonal trust, dynamic dialectical processes, interactivity, and coalition building.

3.9 DEVELOPING SUPPORT COMMUNICATION

Following on the participatory approach and the culturally sensitive development approach, the development support communication (DSC) model assumes that participation is contextual, situational, transactional, and processual. This transactional model is intended for the developing and renewing societies of the world, where there is a widening information an socio-economic gap between the rich and the poor. The opening of dialogue, source and receiver interacting continuously, thinking constructively about a situation, identifying developmental needs and problems, deciding what is needed to improve the situation, and acting upon it. The receivers in this transaction are not merely recipients of someone else's messages but are actively involved in the process of message development, elaboration and delivery (Nair & White 1994: 51).

The choice of messages is based on immediate solution of a problem and is selected jointly by the receivers and the development communication researchers/practitioners. The focus is on altering the communication processes and strategies. This approach is not exactly the same as social movement at the grass roots. The major components of the model are; source, message, channel and receiver take on new dimension, and these processes continuously shape them.

The transactions between the source and the receiver reflect the felt needs of the receiver. Messages are shaped drawing from the appropriate technical and scientific input from the source interface within indigenous knowledge. In the truest sense, the model contains processes within processes, making it dynamic in all respects (Nair & White 1994: 53).

Research on usability and effectiveness of a printed information booklet

Chapter Three

The development support communication model suggest that the receiver and the source, in a communication exchange, are performing equal roles, communication behaviours are processual ongoing, interactive, contextual. The receiver is regarded as the dominant party in the transaction. In fact, source and receiver roles are continuously shifting, i.e. the source is a receiver and the receiver becomes a source as the transaction take place.

3.10 PARTICIPATORY COMMUNICATION

The participatory communication theory on the other hand argues that the point of departure must be the community. An audience participation based approach to development communication implies making the audience the sender of information as well as the receiver. The communication process becomes a circular dialogue. In this dialogue the audience provides the basis for the information communicated and how it should be communicated (Mody 1991).

The rationale behind participatory communication is that it involves "audiences" in "dialogue collaboration, and group decision making", and considers them as the ultimate and perhaps the most important beneficiary of development communication policies and planning. As a result, with the help of dialogical interactions with audiences, such communication can address a whole range of social, cultural, political, economic, and environmental issues affecting people's lives (Bessette 1996).

Recognising the importance of development communication research has been started in this field aiming to support people's participation in their development by enabling groups and communities to diagnose the problems they face, making well informed decisions, mobilize for actions, and assume responsibility for their own development. "The term 'participatory development communication' draws the attention to this emphasis on two-way communication processes, and to

Research on usability and effectiveness of a printed information booklet

Chapter Three

distance people from one way-way communication approaches that involve disseminating messages, transmitting information, persuading people to change their behaviour" (Bessette 1996: 6).

This gives preference to horizontal approaches that involve encouraging dialogue centred on problem analysis and a search for solutions, as well as bottom-up approaches that aim to raise the awareness of decision makers. These approaches are based on a community communication. By allowing for participation in development, participatory development communication becomes a tool for emancipating people and communities.

Participatory development communication, on the other hand recognises the importance of feedback and dialogue in the communication process. It encourages individuals and groups to voice their perceptions of realities. "As a process based on dialogue, participatory communication, supported by group media, mass media, or interpersonal interactions, may come to respond to the needs of non-formal, grassroots, or basic education. It may also lead to a rethinking of what is meant by non-formal education as a result of action based on exchanges of knowledge, rather than linear transmission of content" (Rogers 1976:133).

3.11 INFORMATION AND DEVELOPMENT

Wakelin and Simelane (1995: 41) point to the importance of information provision in "capacity building" and in "empowering communities" and argue that a lack of information acts as a barrier to development. Also see further comments on this issue in Chapter 1. Information provision has been termed a formidable factor in determining whether developmental efforts in Africa are successful or not. Information is seen as a critical resource for people and communication in both rural and urban areas.

Research on usability and effectiveness of a printed information booklet

Chapter Three

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If information is implicit in the existence of man and the fulfilment of everyday needs of a society depends on it (as stated in Chapter 1), it is even more important in a rural developmental context. It is in this context that in many development messages disseminated to disadvantaged communities in South Africa, the target audience may attribute a different meaning to the message than the meaning the creators wanted to convey.

3.12 THE SOUTH AFRICAN RURAL CONTEXT

Karlsson (1995: 47) however provides a bleak profile of rural communities in South Africa whilst the South African Yearbook (1998: 107) makes the stark admission that "rural households comprise the majority of poor homes, and are characterised by severe poverty".

The lack of information provision in rural context is therefore just one of the many problem that has to be addressed. Referring to Africa, Moyo (1995: 62) points to the "alarming information gap that exists between rural and urban areas and how little is being done to bridge this gap". In the South African context information is becoming increasingly available to urban-based organisations through the media (Leach 1999).

The same cannot be said of the rural areas Moyo refers to the role of information in capacity building for development. He states that to the questions around sources of this information a mechanism and an institution for making this information timeously available and appropriate for the community it has to be in an accessible location.

In similar vein, Rosenberg (1993: 34) referring to the rural African issues, "the lack of evidence on the most effective information transfers methods comments on how little research has been done in East and Central African countries on how best to provide the information that is required". Correa (1995: 92) also

Research on usability and effectiveness of a printed information booklet

Chapter Three

notes that while there is no doubt that peasants consider information as being essential to their development he queries the manner in which information is presently generated, formulated and presented. To Correa's question, "is information accessible to them"? The question "is the info usable to them? Can be added.

Most of the rural areas, in Africa including the North West province in South Africa, are geographically small. Yet they are by far the most populous provinces (S.A Census 96 1997: 12). "In North West province a large economically underprivileged rural population is scattered throughout the province. Not only are these rural people numerous, but arguably they, as a socio-economic group, have the least access per capita to development resources including information". These people are under resourced in many ways that affect their ability to access information. Unemployment is well above the national norm, and education levels are low. This results in many people being illiterate.

It is even possible that the intended receiver does not understand the message at all due to illiteracy. Communication codes used to communicate development messages in South Africa should therefore be investigated in order to establish which meaning end-users find in messages created and produced by well-meaning individuals and institutions and whether these messages really bring about the desired action that could improve the target audience's quality of life (Snyman 2002).

Some of the most popular information materials are brochures, booklets, pamphlets and leaflets. They are important media for public information messages. Sometimes they serve as sole means of communication, in other cases they are embedded in a mass media campaign, for instance, along radio or television spots, magazines or newspapers. In the case of government campaigns, they are often the media containing the most elaborate information.

Research on usability and effectiveness of a printed information booklet

Chapter Three

The other media are merely suited to communicate short messages, and often draw attention to them for more information.

3.13 SUMMARY

The relevant literature on text comprehension was discussed in Chapter 2. This chapter placed text comprehension in the context of *development communication* and attempted to explain the importance of information for community development. It was emphasised that in many developmental contexts the designers (or senders) of developmental messages take the level of comprehension of the intended audiences (or users) of developmental messages for granted. This results in information materials, such as agricultural information booklets being ineffective. While information needs to reach everyone as his/her right, developmental information available in booklets and pamphlets are interpreted differently by different people. The next chapter describes the research methodology used in the current study.

Research on usability and effectiveness of a printed information booklet

CHAPTER 4

RESEARCH METHODOLOGY

4.1 INTRODUCTION

The aim of this study was to establish whether, *Sunflower production: A concise guide,* a booklet on how to produce sunflowers, was an example of agricultural information communication that targeted a rural audience of small-scale farmers. The question of whether demographic and socio-economic factors act as barriers to effective communication in a developmental context was also addressed. The study was conducted in the rural areas of the North West province of South Africa with the purpose of evaluating whether the agricultural information booklet about best agricultural practices for growing sunflowers issued by the Agricultural Research Council (ARC) could be understood and used by the small-scale rural farmers.

The researcher conducted empirical research in an attempt to approach the world of the subject with as few preconceived ideas as possible and looked at the phenomenon under discussion in its natural setting. The research is predominantly descriptive. Its aim is not to determine best practices of usability evaluation approaches. The focus is not on qualitatively measurable behaviour, but on the significance and the distinguished characteristics of a text focused, expert-judgement focused and reader focused approach (Berg, 1998).

4.2 METHODS OF ASSESSING THE QUALITY OF TEXTS

Schriver (1997) differentiates three methods of assessing the quality of texts. Firstly, *text-focused* methods assess text quality by means of more or less general principles or guidelines, based on ideas or research about how readers respond to texts. Secondly, the *expert-focused* method uses feedback by

Chapter Four

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professionals who have expert knowledge about the subject, audience, or genre. Finally, *reader-focused* methods use feedback from potential readers in the target audience.

A number of additional or more specific usability dimensions are suggested in the literature such as understandability. Whereas readability formulas do predict probable reading difficulty of a passage based on counts of certain linguistic variables, they do not directly measure the understandability of a given passage for a particular group of readers. Two basic types of measures, which have been used traditionally in readability research are judgements and short-answer comprehension tests. Documentation contributes to memory failure when the reader is required to process long or complex text, to integrate information sources, or to translate, transform and recognise material into a more recognisable or useful form (Guilemette, 1989:221).

The reader-focused method for assessing the quality of texts was selected for this study. The reader-focus methods are generally preferred because they give direct information about how the audience may respond to the different aspects of text quality (Schriver, 1997).

The text-focused methods operate by asking a person to examine a text, attend to a set of text features, and assess text quality by applying principles or guidelines that have been developed from ideas (sometimes from research) about how readers at a certain level and background will probably respond. Thus the reader's input, when used to develop such texts, is indirect. This method includes readability of the text or how the text is read.

Reader-focused procedures rely on feedback from the intended audience. There are two general classes of reader feedback methods. The first one is concurrent testing (which evaluates the real-time problem solving behaviours of readers as they are actively engaged in comprehending and using the text for its intended

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47

Research on usability and effectiveness of a printed information booklet

Chapter Four

purpose) and the second is retrospective testing (which elicits feedback after the reader has finished with reading and using the text).

4.3 RESEARCH DESIGN

Zikmund (2002) states that exploratory research can be a useful preliminary step to ensure that a more rigorous and conclusive future study will not begin without an adequate understanding of the nature of the problem. This is usually the case when a researcher has limited experience of or knowledge about a research issue.

According to Babbie and Mouton (2001) qualitative studies will typically use qualitative methods of data collection such as structured interviewing and qualitative methods of data analysis.

Babbie and Mouton (2001: 271) also "confirm the viewpoint that qualitative researchers have always been interested primarily in describing the actions of the research participants in great detail. Thereafter, they attempt to understand these actions in terms of the author's own beliefs, history and context. Therefore, the primary goal of a qualitative study is to describe and understand rather than to explain human behaviour".

4.3.1 Design of the research instrument

Structured open ended-ended questions and focus groups were chosen as the instrument of this study. The informal group discussion should engender an atmosphere in which participants feel comfortable to express their ideas freely and to discuss their attitude and behaviours (Berg, 1998). Berg also points out that one important distinction between focus groups and face-to-face interviews is the ability to observe interactions about a discussion topic during the focus

Research on usability and effectiveness of a printed information booklet

group sessions. Focus groups are methods using group interview procedures for evaluation. It has been a popular means of pre-testing the usefulness of texts. Focus groups use open-ended questions to solicit people's attitudes, perceptions and opinions about a single text or sometimes a group of texts.

Facilitators of focus groups are not restricted to the questions that are prepared as part of the moderator's guide. Instead, the facilitator is free to explore comments and issues raised by members of the group. Of course, this exploration requires as much art as preparation on the part of the moderator, yet by asking follow-up questions and tracing new ideas, the moderator helps the group complete a thorough analysis of the topic. Sometimes, according to Wimmer and Dominick (1997), moderators have to deal with different sorts of group members including the following:

- Shy people who must be encouraged to speak up;
- Know-it-all people who must be prevented from dominating the group; and
- Over-talkers who must be cut off and perhaps removed from the group.

Another category that can be added to the list above is that of unsophisticated respondents who are mostly found in less developed rural areas. These respondents tend to give answers that they think the researcher might want to hear in order to try and impress the researcher. This situation can obviously influence the validity of the research results. A further comment about this issue is made in the final chapter.

The first criterion was to identify a booklet on sunflower production.   Out of a selection of printed information material the sunflower booklet was chosen as an appropriate document to be researched/evaluated in terms of comprehension and effectiveness to its users.

Research on usability and effectiveness of a printed information booklet

Chapter Four

The document analysis as adapted from De Jong and Schellens (1997) (see chapter 2, p.28) was used to provide the questions used in the text-focused evaluation of the Agricultural Research Council booklet, *Sunflower production: A concise guide*. This was done in order to establish whether the booklet would suit the target audience.

The interview schedule consisted of two sections: Section A and B. Twenty questions were formulated and were divided into the two sections, each linked to the research objectives. Ten questions were focused on the text while the other ten were reader/audience focused (demographics).

As indicated earlier face-to-face interviews with individuals were conducted to obtain in-depth information about demographic as well as socio-economic factors. Interview questions formulated for the interview schedule consisted of twenty questions, divided into two sections; each linked to the research objectives.

The reader-focused evaluation was meant to determine the shortcomings of the booklet. The goal was to detect and diagnose all problems that readers would experience, not only with the comprehension, but also with credibility in terms of value judgement, advice and appreciation.

4.3.2 Data collection methods

The structured interview is a key component of qualitative data collection. The study, was therefore was based on empirical evidence gathered by interviews and focus group discussion. Interviews allow exploration of issues in depth in a face-to-face encounter and have the added benefit of the personal involvement of the researcher.

Research on usability and effectiveness of a printed information booklet

The following data collection methods were used in the research:

- Focus group discussions with small-scale rural farmers, as well as
- Structured open-ended interviews.

4.3.2.1 Focus group discussions

Focus group discussions involve a small number of respondents (usually six to ten) under the guidance of a facilitator. The subject of investigation is explored extensively (Zimmerman and Perkins 1982). According to Zimmerman and Perkins (1982) focus group sessions were originally used by commercial sector firms and have now become a method of conducting qualitative research. As a research method focus group discussions use group interview procedures for evaluation. It has also been a popular method of pre-testing text usefulness. Open-ended questions are used to solicit people's attitudes, perceptions and opinions either about a single text or a group of texts.

The focus group discussions took place before the interviews had been conducted. Using focus groups was one way to involve participants in the discussion proceedings as stated by Stage (1998). By using focus group discussions, the researcher hoped to "obtain deeper levels of meaning" (Greenbaum, 2000:47). The spontaneous interaction between participants in an informal focus group discussion often reveals data that might not be discussed in the more formal relationship between the interviewer and the interviewee.

4.3.2.2 Structured open-ended interviews

This type of interview was used to do reader-focused research with the objective of understanding how selected members of the target audience interpret the agricultural information booklet that was used as stimulus material in the

Chapter Four

research. This means that questions regarding factual information about the demographics were posed in a set order.

Such interviews are a key component of qualitative data collection. According to Pratt, (1989: 85) "interviews allow exploration of issues in depth in a face-to-face encounter". This has the added benefit of the personal involvement of the researcher, which was necessary in this study.

4.3.3 Location of research

The research took place in the North West Province of South Africa. The population consisted of small-scale rural farmers who were selected for the purpose of the research by the Agricultural Research Council (ARC).

The ARC expressed the need for this research as the selected agricultural information booklet on the production of sunflowers had been under review and the intention was to reprint it.

The agricultural extension officers of the ARC as well as ARC officials arranged the visits with farmers although only one of them was part of the study as a moderator. The first visit for the pilot study (see further discussion under Section 4.3.6) took place in Makouspan on the 19th of September 2002. The second field trip was on the 7th of November 2002. During the first visit nine respondents participated and on the second visit 11 participated.

4.3.4 Text used for research

When the booklet was made available to the researcher for the study it was in English. The target audience (small-scale rural farmers) received copies of the booklet translated into their vernacular language. The researcher perused the booklet to identify possible questions for the study's feasibility.

Research on usability and effectiveness of a printed information booklet

Chapter Four

Parts of the text used for evaluation was selected according to the themes in the booklet. This was done with the aim of selecting text that would be information rich, in other words, text that would support the purpose of the research and the theoretical constructs.

The following text was selected in the booklet *Sunflower production: A Concise guide:*

- Text 1

This is the introduction to sunflower production. The text is in an abstract format. It consists mainly of terms that will be introduced at a later stage.

- Text 2

Terms such as molybdenum, aluminium, and scientific measures such as pH lower than 4,6 (KCl).

- Text 3

This consisted of visual signs, such as a shaded table drawing with headings, numbers and measurements in it (See Addendum C).

4.3.5 Sampling

According to Neuman (1997) sampling is a process of systematically selecting cases for inclusion in a research study. There are two types of sampling. The first one is probability sampling. De Vos (1998) states that probability sampling is a method in which each person of a population has the same probability of being selected. The other type is non-probability sampling where the probability of including each element of the population in a sample is unknown (Neuman, 1997).

The ARC is the national grain crop institute of South Africa. This institute is responsible for producing information about best Agricultural practices in the

Research on usability and effectiveness of a printed information booklet

Chapter Four

country, for both commercial and for emerging farmers. In a conversation with the ARC public relations official in Pretoria, Ms N Sithole, it was indicated that "the main objective of our organisation is to provide knowledge through research that will make an impact on emerging farmers' livelihood and development" (Sithole, 2003). The institution's aim is to increase agricultural productivity and output, to create opportunities for resource poor farmers to increase income through increased markets output, to create employment opportunities and to ensure food security.

Seeing that the ARC commissioned the research, they played a decisive role in the sampling of the population used in the research. Five research areas were visited in the North West Province, namely Letlhakane, Bethel, Makouspan, Naaupoort and Mooifontein. The areas were selected due to the fact that there are many small-scale farmers in and around them. The respondents were selected as representatives from the mentioned areas. According to the crops and markets agricultural statistics in Pretoria, the census of agriculture 1993 and Agricultural Survey of 1996 indicate that there was a total of 147 400 of the small scale rural farmers (Kruger, 1993). This shows the number of small-scale rural farmers found in the whole of the North West province.

The sample for this study, therefore was chosen on the basis of purposive sampling which is a non-probability sample consisting of selected and information rich respondents who are available (Wimmer and Dominick 1994). Within the context of this study the researcher used non-probability sampling, because it was not possible to include all the community members of the five areas visited in the North West Province. Only a selected number of small-scale rural crop farmers who were available during the time of the research were included.

Purposive sampling includes subjects selected on the basis of specific characteristics or qualities and eliminates those who fail to meet these criteria

Research on usability and effectiveness of a printed information booklet

Chapter Four

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(Wimmer and Dominick 1994). This was done by virtue of the fact that the respondents were small-scale rural crop farmers in the pre-selected areas.

4.3.6 Pilot study

Pre-testing or a pilot study is a trial run with a group of respondents. Such a trial run is aimed specifically at eliminating problems in the design of an interview schedule (Zikmund 2000). In a pre-test the researcher looked for evidence of ambiguous questions and respondent's misunderstandings. In other words, it tried to determine whether the questions mean the same to all respondents.

Since this is, by nature, an exploratory study, the pilot study was of the utmost importance. Apart from the testing of the formulated questions for the interview and the focus group discussion, feedback on the study and the type and structure of the questions was necessary to ensure that the study would have significance.

The pre-testing or pilot study was conducted during focus group discussions on September 19th, 2002 in Makouspan, among representatives of the intended research respondents. Only representatives from the above-mentioned areas were present for participation. Nine respondents in total took part in the pilot study. They were eight males and one female.

4.3.6.1 Problems encountered with the pilot test

Lack of proper arrangements by the agricultural extension officers resulted in problems being experienced in the pilot test. The extension officers made arrangements from the Department of Agriculture in the Ditsobotla district, because the researchers were coming from Pretoria. Unfortunately the plan did not go smoothly. The date the researchers chose together with the ARC official was suitable for everyone, but the researchers were disappointed to note that most of the farmers were going to collect their pension grants on that particular

55

Chapter Four

day. The researchers, subsequently, had to wait for more respondents who were brought from Bethel by the other officials so that the focus group discussions as well as interviews could take place.

4.3.6.2 Results from the pilot test

The researcher conducted focus group discussions and individual interviews. All participants received the information booklets. English and Setswana booklets were available and the subjects chosen were all Setswana speakers. There were some words in the booklet which could not be translated in vernacular such as "*molybdenum*". Although it was the first time they saw the sunflower production booklet, they became excited when they saw it. All the respondents were interested in acquiring information about agriculture, especially those who were cultivating sunflower and maize.

The fact that respondents did not understand the booklet due to the problem of illiteracy made the message delivery to be unsuccessful when reaching the target audience. They wanted the extension officers to explain the booklets and other information material to them. However, as comprehension was difficult they preferred face-to-face communication so that they could ask questions for clarity.

4.3.6.3 Modification based on the findings of pilot study

From the results above the need to modify the method of data collection was necessary. Initially the research design comprised a combination of semi-structured open-ended interviews and focus group discussion. Due to the unforeseen circumstances this was not fulfilled. The pilot study indicated that the level of comprehension amongst many of the respondents was too low to justify the implementation of semi-structured open-ended interviews. In addition, it might have been humiliating for the low-literate or illiterate respondents to indicate individually that they cannot read or understand what they are reading. Therefore, it was decided, that despite the obvious shortcomings of such a

56

Chapter Four

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methodology, to only evaluate the booklet in focus group discussion. This, in itself, is a strong indication of the degree to which the booklet is not suitable for this target audience (small-scale rural farmers).

4.4 THE RESEARCH PROCESS

The researcher conducted focus group discussions and individual interviews. The two methods as decided by the researcher took place on the 19th September 2002 during the first visit, during the second one on the 7th of November. The fieldwork took place in two areas, namely, Makouspan and Naaupoort.

The respondents who participated and contributed in the success of the research, namely the small-scale rural farmers (comprised nine). In the first visit, eight men and one woman. There were also two agricultural extension officers (a man and a woman). In the second visit eleven participated in the study, of whom were all men.

The researcher started facilitating the focus group by telling the respondents about what was going to be done, wanting to get their permission to record their responses on the audiotape. They all agreed. Then the respondents were given the booklet. All the questions for the discussion were to be obtained from the booklet. Respondent 1, who was busy talking to two other respondents, told them that the researchers were doing a survey. After explaining the purpose of the research he asked: "Why are you not talking about cattle farming because our cattle are dying, so that we can be able to cure them, I'm only interested in cattle farming because I know everything about crop farming". This respondent works in Caltonville in the mines and he was on leave, but his home is in Naaupoort.

Research on usability and effectiveness of a printed information booklet

Chapter Four

Most of the participants did not understand what was needed due to the fact that they could not read even though they mentioned that they could. Therefore, the text remained incomprehensible to them. That led to the researcher reading the selected text to them so that they could answer the questions.

4.4.1 The method of analysis

After collecting the data, the researcher took the audiotapes that were used and the notes taken for additional information during focus group discussion. Participants' responses that were recorded were later transcribed and analysed. The well-tested method of discourse analysis was used to interpret the data collected in both the interviews and the focus groups.

4.5 ISSUES OF RELIABILITY AND VALIDITY

It was emphasised that the research was commissioned, which raised further implications in terms of the target audience selected. However, it should be pointed out that the sample selected from the population is still well within the confines of the targeted audiences for agricultural information messages in a developmental context. The only difference was that the researcher could not select the sample himself. Therefore, this should therefore not influence the reliability of the results when making it applicable to similar small-scale rural farmers in other geographical areas.

Individual interviews and focus group discussion as the two methods of data collection were used. Most of the participants in this qualitative study are classified in the low level of literacy. Individual interviews could not have been done to validate their answers we received. It might have been humiliating for them to indicate individually that they cannot read or understand what they are reading. Therefore, it was decided despite the obvious shortcomings of such a

Research on usability and effectiveness of a printed information booklet

Chapter Four

methodology, to only evaluate the booklet in focus group discussion. This, in itself, is a strong indication of the degree in which the booklet is not suitable for this target audience (small-scale rural farmers).

4.6 SUMMARY

The research design, methods and the process undertaken in this study were stated in this chapter. The data collection method was also outlined according to the order of the procedure followed. The geographical area of research was identified and also the dates of the fieldwork. The role of the ARC was identified and its function in the research was stated.

The findings of the research are discussed in the next chapter.

Research on usability and effectiveness of a printed information booklet

CHAPTER 5

RESEARCH FINDINGS AND DISCUSSIONS

5.1 INTRODUCTION

While the original aim of this study was indicated in Chapter 1, what follows is the revisit of the research objectives of the study, which emanated from the study focus. The major aim of the study is to look at the usability and effectiveness of a printed information booklet by the ARC called, *Sunflower production: A concise guide.* This was done in a survey amongst small-scale rural farmers in the North West Province.

The primary objectives have remained constant throughout the study looking at the adapted evaluation model as indicated in Chapter 2 on page 28 according to De Jong and Schellens (1997). The following categories: *comprehension, attractiveness usability,* and the *value* of the development information material (agricultural information booklet) for the target audience (small-scale rural farmers) were evaluated. The research also wanted to establish whether the demographic and socio-economic factors of the target audience act as *barriers* in the effective communication of the development information.

5.2   FINDINGS

The participation was deemed low and inactive due to the fact that the extension officers acted as co-ordinators and recruited participants to take part in the research project. One element of concern is the fact that women did not participate as much as men did. This does not mean that they do not take as great a part in farming compared to their male counterparts, but can be attributed to the family commitment and other aspects. Or, as it was indicated by one

woman who participated in the study, the reasons might be vast, "in most cases men are supposed to attend meetings and bring information to share it with the family".

The general questions about the demographics of the respondents were done as a first method in the data collection. The booklet was then tested after the interview regarding the above statement. This was done in order to establish whether the demographic as well as socio-economic factors could act as barriers to the effectiveness of communication in a developmental context.

5.2.1 Demographic and socio-economic information

It is important to determine the demographics and socio-economics of a sample as this information could lead to the identification of certain trends and deviations in the sample units based on certain commonalties and differences they may possess.

For this study, the demographic elements that were deemed to be important are listed below (also indicated on table 1 and 2 Addendum B).

- The ages of participants varied between 40 and 60 years. Six of them range between the ages of 50 to 59. This resulted in poor vision of the respondents and their level of formal schooling was between primary grades to secondary school. The age factor could indicate that old people are the ones who are active in farming.
- All respondents have been staying in the area for 18 to 26 years and longer as permanent residents of the area.
- The respondents indicated that their settlements are not in good condition. This was highlighted by the fact that most of them still reside in mud houses even though others live in modern houses (bricks and cement) they have been staying there for a long time.

Research on usability and effectiveness of a printed information booklet

Chapter Five

- All of the respondents live in a family of more than 5 within one household. This indicates that people in the area still adhere to the culture of accommodating extended families. This is because most of them stay with grandparents, grandchildren and siblings.

- Five respondents have indicated that they have two families and one was a single parent.

- Many are not working due to the fact that they depend on farming. Even though few of them are working, the rest depend heavily on crops and livestock farming.

- Poverty seems to be a problem; even the number of children found in one household can be attributed to the lack of health education and/or low literacy regarding contraception.

- It was difficult for the respondents to indicate their income. As farmers their income is determined by production. It becomes good during the rainy season and bad under drought conditions. One claimed that during favourable conditions more than R 20.000 could be pocketed.

- This seemed to be a difficult situation, as they were dependent on their annual income. In most instances it is not guaranteed that the money spent on ploughing will be received during/after production.

- All participants use Setswana as their first language, even though they indicated that they could speak English and Afrikaans as well. This was contradicted when they were supposed to answer some of the questions about certain English terms used in the text and they could not.

- All respondents are Christians. This was interesting because they also believe that God gives them rain that results in good production.

5.2.2 Summary of demographics

The majority of the small-scale rural farmers living in the above mentioned areas are aged and unemployed. Most of them or their families rely on pension grants. The socio-economic level is low in the area. For those who rely on an annual turnover it is very difficult to survive. Emotions ran high when questions regarding income were raised and some of the responses were: "There is no rain coming now and time is already elapsing for ploughing" and "Diesel is going up every week".

All the respondents, as indicated, practice livestock and crop farming and not all of them received training for practice as farmers. Some of them attend workshops arranged by agricultural extension officers once every six months. This shows that they are practising farming from the knowledge and experience gained from their parents. This farming knowledge was passed from generation to generation as part of culture. Above all these aspects, is a high illiteracy rate.

5.2.3 Evaluation of the booklet

During the evaluation of the booklet the De Jong and Schellens (1997) model was used and it is within this context that the following was done.

5.2.3.1   Familiarity with and availability of the booklet

Q 1. Have you seen the booklet before?
- All of the respondents indicated that they had come across the booklet for the first time. While all wanted the Setswana booklet, respondent no 1 took the English booklet.

5.2.3.2   Comprehension of the booklet

The respondents were instructed to read the Introduction on page 1.

- Although they indicated that they could read and write some could not even see where page 1 was. Those who could read took approximately ten minutes to finish the three paragraphs on page 1 (See Addendum C).

- The respondents were asked to explain the meaning of the following words? Words such as *minerals, aluminium,* and *molybdenum* were underlined for the respondents to explain.

- No explanation was given. Although a suggestion was made from respondent no 1. He mentioned that aluminium might be referring to the sunlight. The same respondent also passed on a concern to the researcher not to use such words because he is talking to older people. The researcher made it clear that, those words were found in the booklet and the Agricultural Research Council (ARC) also uses them.

Q 2. This question was not asked as prior to the interviews I discovered that the respondents had not seen nor heard of the booklet.

Q 3. In which type of soil did sunflower production traditionally take place?

- Even those who found it difficult to recognise the words in the text answered. All the respondents (except respondent no.1) answered in Setswana and said that it grows very well in "Seloko" meaning "clay". This shows that they had knowledge about the subject because of their experience.

Q 4. Why could sunflower crops only be cultivated in some parts of the country?

- One respondent was looking in the booklet referring with the intention of getting and answer. What surfaced was the fact that they wanted to share their experience. Respondent no. 1 mentioned that "our people prefer it more than maize because its strong during winter and good to cultivate when its late for planting. He opened a discussion that was not needed or even leading to the answer. Three respondents mentioned that it is because it is cheap to cultivate but you could also loose if you are not lucky.

Q 5. What are the main points of the introduction?

- The answers to this question indicated that eight out of eleven respondents were not reading when the researcher told them to read because of the fact that they cannot read.

5.2.3.2.1   Inferences

It seems that a lack of information and proper skills are the main problems affecting rural communities. People do not have information about resources and various opportunities available for farmers. According to Flora (1986: 4) education maximises local participation and provides community and leadership development by encouraging people to help themselves acquire skills and knowledge to improve their quality of life and that of the community.

5.2.3.3 Appreciation

Q 6. What do you think about the pictures and the tables in the book?

- The table about the yield potential on page 3 did not have a meaning to them, while others mentioned they could not see the text because it's small.

Q 7. After paging through the booklet, will you advise a friend or family member to read this information-guide for sunflower production?

- All the responses indicated that they would advise their family members and friends to read the booklet.

5.2.3.4 Usability

Q 8. For whom do you think this booklet was written?

- All of the participants except one did not know for whom the booklet was written. This shows that because the receivers themselves could not identify with the booklet. This presents evidence that the booklet was not suitable for them.

Q 9. Who do you think wrote this booklet?

- All of the respondents think that the person who wrote the booklet on sunflower production is someone with a farming knowledge and background. Respondent 3 said, "It's someone who has done research like you", referring to the researchers. Respondent no 4 answered that it was written by White farmers.

Q 10. What information do you think should be included in the guide for sunflower production?

- All the participants responded with different suggestions like: money for farming; one woman said "tips to approach the Land Bank" and "tips for sustaining farming especially, in drought conditions".

- Respondent no 1 said that he would like information on how to test soil and where to find good seed for farming. Most of the participants recommended that the booklet should be used for future reference on farming methods.

- Although some respondents were visually impaired they wanted big fonts for the text as well as infotoons.   The latter relate to pictures or photographs with written text that conveys a message. It is usually big and is clearly seen. This is supported by Zimmerman and Perkins (1992) claim that printed pictorial material prepared for illiterate or semi-literate user's can be "practical, feasible and effective".

Q 11. What information should be included in a guide for sunflower production?

- Four respondents reported that they wanted to learn more about the principles of farming and the management of crops, as well as the basic and important issues in farming, such as soil treatment and testing; crop health; and commercial farming, with reference to marketing for profit.

Q 12. In which language do you think this booklet should be written?

- All the respondents felt comfortable with the Setswana booklets. However, the earlier criticism about the technical terms that are found in the booklet was brought to the fore again. The opinion was expressed that those terms should be translated or explained in language they could understand.

Research on usability and effectiveness of a printed information booklet

Chapter Five

5.2.3.5 Reader responses

About the booklet, this section discussed the test and the responses received from the targeted audience about the text. It was clear that the booklet and the text do not have a great influence because of the low comprehension displayed by the participants. The level of low literacy, the shortcomings of the booklet result in the intended meaning being not successful. The differences in the socio-economic and demographic factors of the sample might remain a major impediment to effective communication.

5.2.3.6 General effectiveness of the booklet

All the questions of effectiveness of the booklet its comprehension, acceptance, and the value of the booklet after the text were evaluated, presented evidence to the research looking at the target audience responses.   The above findings support the claim by Schriver (1997) that the writer/producer of the messages in most instances takes too much for granted, assuming that merely by speaking his mind he can change the reader's mind. The writer has to utilise available bridges to create new ones. However, his writing will not be effective if he fails (Schriver 1997).

The findings of this study present evidence that the target audience do not comprehend the information booklet. Even though the majority of them feel wanted to know more about agriculture.

Yet this research shows that availability of such information has a positive impact on the development of farmer groups. The ineffectiveness of the booklet is mainly due to the fact that the illiteracy rate is high in the area. From the above it is evident that the development information material about sunflowers (booklet)

Research on usability and effectiveness of a printed information booklet

Chapter Five

did not play its intended role. This was shown by the respondents' lack of proficiency in dealing with the text.

5.3 SUMMARY

This section presented the information about the evaluation of the information booklet. Realities of the booklet to be effective and usable for the target audience have been presented.

Research on usability and effectiveness of a printed information booklet

CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

6. 1   INTRODUCTION

The purpose of this chapter is to gather all the results of the research study and to conclude, summarise and make recommendations based on the findings of the study.   Within the context of this chapter, the objectives are revisited and the findings gathered from the study are documented in a summarised manner and conclusions based on these findings are made.

6.2   CONCLUSION

The research objectives to establish the target audience or receiver's comprehension, appreciation, acceptance and attractiveness, and the effectiveness of the booklet were greatly influenced by low level of comprehension displayed by the participants. All of them were met during the data gathering process and again confirmed by literature. During the focus group sessions respondents were able to voice their opinions about their information needs and the problems they experienced with the booklet.

6.3   USING PRINTED MEDIUM

From the coding process, which came out of the analysis of the demographics, the importance of addressing problems of low literacy was highlighted. Despite the obvious importance attached to the respondents' indigenous knowledge, information and experience in farming there are factors that need to be taken into consideration   for   communication   and   understanding   to   occur   within   a

70

Chapter Six

developmental context. In terms of the appreciation though the booklets are available in Setswana, the respondents were very much aware of the need to repackage the information.

6.4   THE TEXT

De Jong and Schellens (1997: 404) model shown below as adapted within the context of this study is discussed as aligned to the text used.

Comprehension: The text of the booklet has an academic style in which the structure is more abstract and a lot of headings are used.

Acceptance: as was indicated most text did not explain meanings of certain words used so the answers were derived from traditional knowledge based on their prior knowledge.

Application: the English used within the text is of a high standard, thus uncommon words are found in the vernacular version of the booklet.   There was a total lack of contextual comprehension. The need to have the relevant terms in language Setswana was indicated.

Relevance and completeness: according to De Jong and Schellens (1997), a text must contain the right information, information must be new, relevant and complete, and no unanswered questions should remain. The data showed that majority of the respondents need more information to be included in the booklet that would help with their development. Among others, such information would be how to apply for a loan at the Land Bank and how to become a commercial farmer.

Research on usability and effectiveness of a printed information booklet

Chapter Six

6.5 SUMMARY OF THE READER AND TEXT

The following conclusions are deduced from the research study.

- The majority of the respondents living in the five areas of the research are aged. Their age has resulted in poor eyesight, which becomes a barrier to their reading. It will also be barrier to agricultural production.
- The people are willing to practice commercial farming and they are willing to expand their farming operation. The problem, however, is that they are sceptical about applying for financial assistance because of the requirements for such applications.
- Material should be designed with inputs from members of the target audience and then pre-tested to ensure relevance and effectiveness.
- Material becomes effective when the target audience is part of the development of those messages or has taken part in the developmental process of such messages.
- A high illiteracy rate reduces the effectiveness and usefulness of printed information material.
- Printed material must be physically delivered to the target audience to prevent interference with its dissemination.
- The development and design of effective printed material requires trained and knowledgeable personnel.

6.6 BARRIERS TO BE OVERCOME (Demographics to text)

It is important not to use long text particularly in printed information material. Lengthy text results in the likelihood that people will not risk reading it. The content for the development information also needs to be relevant with appropriate language.

Research on usability and effectiveness of a printed information booklet

Chapter Six

Avoid small print, it discourages readers as indicated by Doak and Doak (1996). Size of print must permit the message to be read immediately. Use illustrations to increase the attractiveness of the information material. This can arouse the attention of the target audience, and convey meaningful information within a relatively small space.

Zimmerman and Perkins (1982) claim that illustrations are valuable when they enhance the printed message. The best type of illustration is clear and appropriate. Hand drawn Illustrations that show action should be used as well as the photographic type instead of only sketches to evoke a desired emotion within the target audience.

6.7 RECOMMENDATIONS

The following basic conclusions can be deduced from the findings of the study.

Participation of farmers in agricultural development is an important issue especially among small-scale rural farmers as they are totally reliant on this. According to Farrington and Martin (1998) participation implies that there should be a balance in decision-making, information and resources between outsiders and the community, which require local people to take ownership of development activities. It is crucial for the farmers to take responsibility because they know best their situation and circumstances. If they become involved in development, they will be able to share various ideas that will contribute to changes in their situation.

Studies have shown in the literature that attention should be given when communicating with developing communities. The findings of this study also complement the studies by Leach, (1999), Zimmerman and Perkins (1982), and Megwa, (1996). Nevertheless, printed texts have a place as a medium to

Research on usability and effectiveness of a printed information booklet

Chapter Six

communicate development messages within the South African context and also the agricultural context though certain measures should be considered when designing such developmental information messages.

Factors to be considered when designing material in a developmental context are firstly, designers of messages must forget artistic appeal. Secondly, they must focus on ease of reading. The self-efficacy factor will ensure that the written material does not appear overwhelming to the reader or does not discourage readers before they begin to read. The print size and type style must be made large enough and clear enough to be read easily, even by those with poor vision as this was a problem experienced by most of the respondents who were old. In another vein, many concepts must not be squeezed into one paragraph, (even if the readability is low) because the reader becomes overwhelmed with the text. Unfamiliar words must also be avoided. Such action will also avoid concept density.

For printed information material to be usable and effective, producers of such messages and information should consider using the participatory communication approach rather than the top-down communication approach.

Once the material is developed effective methods should be put in place to disseminate it to the target populations. Although many people have literacy problems, as was the case with this study, they do not want to admit that they have a problem. The people with low–literacy levels are difficult to reach through traditional channels for several reasons. Firstly, because they cannot read well and often cannot understand verbal messages. Traditional campaigns for literate people using written material or verbal script, are difficult for a low-level reader to understand. Secondly, methods such as oral tradition, meetings and workshops (as mentioned in the responses) are usually overlooked. However, many low-literate people can understand these methods if these are delivered by a professional person.

Research on usability and effectiveness of a printed information booklet

Chapter Six

6.8 LIMITATIONS OF THE STUDY

This particular study has certain limitations. Firstly, it is a small sample of two focus group discussions. Individual interviews could not have been done. Most of the participants in this qualitative study are classified in the low-level or literacy. Secondly, the majority of the subjects were not even able to achieve a basic reading ability level.

This study only focused on the areas visited in the North West Province of South Africa.   Within this perspective, no attempt is made by the researcher to generalise the results from this study to a broader geographical area. The results gained are reliable for the specific stimulus material for the respondents tested in the specified geographic area.

Another limitation is that, despite the obvious shortcomings of such a methodology, only the evaluation of the booklet was done in a focus group discussion. This, in itself, is however a strong indication of the degree to which the booklet is not suitable for this target audience (small-scale rural farmers).

As it was indicated earlier, this was a research project commissioned by the ARC. More importantly, however, emphasis has been placed in the presentation and the discussion of the findings on what the respondents themselves said in accordance with the qualitative perspective of allowing the voices of the participants to be heard. Thus, numerous quotes from the respondents have been provided.   The results and the voices should not be construed as representative, in general, of the small-scale rural farmers in the area of this research.

Research on usability and effectiveness of a printed information booklet

Chapter Six

No funds were available for this research. No refreshments were provided to the respondents. This led to poor participation by the respondents who, in some instances, came from afar.

6.9 CONCLUSION

This empirical study on the usability and effectiveness of printed information material was set out to evaluate the agricultural booklet known as the *Sunflower production: the concise guide*. The study was carried out among the small-scale rural farmers in the North West to establish whether the material/ booklet is suitable for the target audience. What has emerged extremely forcibly and in line with the literature review within the developmental context, was the complexity of the text features during the evaluation, this lead to the difficulty in understanding the communication and the message correctly.

Data was collected by means of various processes, including, structured open-ended interviews, focus group discussions. The findings of the study indicated the context in which the human interaction took place during the data collection. It was emphasised that in many developmental context the designers or senders of messages take the level of comprehension of the intended audience of developmental messages for granted.   This is stressed by Megwa (1996:61) when he says, "communication should be visualised as an interactive enterprise in which both the sender and the receiver of information actively take part in the creation, transmission and reception". The intended meaning as communicated by the sender was not effectively conveyed to the receiver, looking at the elements such as illiteracy and other demographics and socio economic factors.

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Research on usability and effectiveness of a printed information booklet
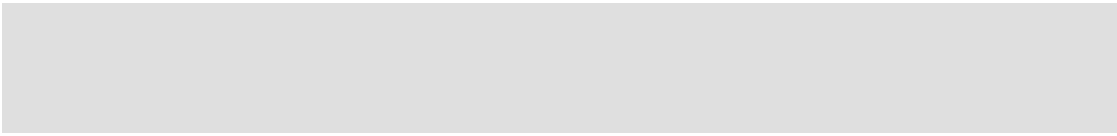
ADDENDUM: A

INTERVIEW SCHEDUELE

Section A: Demographic information

The role of socio-economic and demographic factors in the communication of information.

1. How old are you?

Below 30 years
Between 30 years and 39 years
Between 40 years and 49 years
Between 50 years and 59 years
Over 60 years

2. For how long have you been staying at this place?

Less than 2 years
Between 2 and 10 years
Between 10 and 18 years
Between 18 and 26 years
More than 26 years

3. Which type of dwelling do you live in?

   ----

4. How many people are there in your family?

   ----

5. How many are adults?

   ----

6. How many people are working?

    ----

7. How many children are attending school and how many do not?

     ----

8. What is your income per month?

Less than R100
Between R150 and R200
Between R200 and R300
Between R300 and R400
More than R400

9. What is your level of education?

Primary schooling
Middle schooling
Secondary school
Tertiary schooling
None

10. What is your literacy level?

Read and write
Read
Write
None

11. Which language(S) can you speak?

Sepedi
English
Afrikaans
Other

12. What is your religion?

ZCC
Apolistic
Christian
None
Other

13. What type of farming do you practice?

   ----

14. Did you receive any training for your farming?

   ----

15. What type of training did you receive?

Workshops
Meetings
Other

Section B: Usability and Effectiveness

Show them the booklet "Sunflower production: A concise guide"

Questions

1. Have you seen this booklet before?

1.1. Yes/No

1.2. If **yes**

Where/when?

----

2. Have you used it? If yes for what?

2.1 **Read the Introduction on page 1.** • **Explain the meaning of the following words in the bookelet.** • **Read the marked sentences and explain their meaning.**

3. In which type of soil did sunflower production traditionally take place?
   ----

4. Why can sunflower crops only be cultivated in some parts of the country?
   ----

5. What are the main points of the introduction?

   ----
6. What do you think about the pictures and tables in the book?

6.1 Respondents are instructed to turn to page 3.
- **Explain the table on page 3 to the respondents.**
- **Respondents are instructed to turn to another page.**
- **Page through the booklet.**

7. After paging through this booklet will you advise a friend or family member to read this info-guide for sunflower production?

7.1 Yes/No

7.2 If **YES:**
Why?

7.3 If **NO:**
Why?
----

8. For whom do you think this booklet was written for?

----

9. Who do you think wrote this booklet?

----

8. If you were to write a booklet on sunflower production what information would you include?

----

9. What information do you think should be included in a guide for sunflower production?

----

10. In which language do you think this booklet should be written?
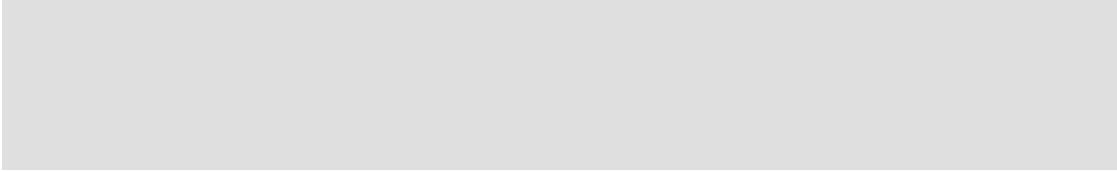
ADDENDUM: B

Table 1

Age	50-59	50-59	40-49	30	50-59	50-59	50-59	50-59	50-59	60
Area Lived	>26	>26	>18 &26	>26	>26	18 & 26	18 & 26	>26	>26	
Type of Settlement	Mud	Cement	Cement	Mud	Cement	Mud	Cement	Cement	Cement	cement
Family	4	6	7	9	8	8	6	10	8	
Parents	5	2	5	4	2	6	1	2	2	2
Studying	6	0	0	1	3	0	2	0	1	1
Children	7	2	3	4	9	4	4	3	1	0
Income	None		400	100		400	400	150	400	400
Highest std	Sec	Sec	Pri	Sec	Pri	Sec	Mid	Mid	Mid	Pri
Literacy	Read Write	Read Write	Read Write	Read Write	Read	Read	Read write	Read Write	Read write	Read write
Language	S/E/A	S/E/A	A/O	S	E/A/O	S	S/A	S/E/A	S/E/A	S
Denomi-Nation	Zcc	Ethio-pia	Chris-Tain	Zcc	Zcc	Chris-Tian	Luthe-ran	Other	Other	Other
Information	Parents	E O	E O	E O Media	E O	E O	E O	E O	Parents	E O
Farming	Crops Stock	Crops Stock	Crops Stock	Crops Stock	Crop Stock	Crop Crop	Crop Stock	Crop Stock	Crop Stock	Crop Stock
Training	No	No	Yes	Yes	Project	Yes	Yes	Yes	Yes	Yes
Infor-Mation Mt	Meeting	Work-shop	Work-Shop	Work-Shop	Work-Shop	Work-Shop	Work-shop	None	none	none

Table 2

Age	>60	>60	50-59	30	>60	>60	>60	40-49	40-49	40-49
Area Lived	>26	>26	>26	>26	>26	26	26	>26	>26	26
Type of Settlement	Mud	Cem Brick	Cem Brick	Cem Brick	Cem Brick	Cem Brick	Cem Brick	Mud	Mud	Cem Brick
Family	4	18	9	10	8	12	11	3	8	8
Parents	2	6	2	2	1	5	8	1	2	4
Studying	0	1	0	1	1	4	0	0	2	1
Children	3	5	1	4	5	3	3	3	2	2
Income	400	400	400	400	400	400	400	__	400	400
Highest Std	Pri	Pri	Pri	Mid	Pri	None	Pri	Pri	Sec	Sec
Literacy	None	Read Write	Read Write	Read Write	Read	None	Read write	Read Write	Read write	Read write
Language	S	S	A/O	S/E/A	S/O	S	S/A	S/A/O	S/E/A	S/E
Denomi-Nation	Zcc	Ethio-pia	AME	IPCC	Zcc	Chris-Tian	Luthe-Ran	Other	Other	Other
Infor-mation	Par-rents	E O	E O	E O Media	E O	E O	E O	E O	Pare-nts	E O
Farming	Crops Stock	Crops Stock	Crops Stock	Crops Stock	Crop Stock	Crop Crop	Crop Stock	Crop Stock	Crop Stock	Crop Stock
Training	No	No	Yes	Yes	Self	Self	Self	Self	self	self
Infor-mation Mt		Work-shop	Work-Shop	Work-Shop	Work-Shop	Work-Shop	Work-Shop	None	none	None