The use of education theory to guide the implementation of participatory rural appraisal in the Kingdom of Tonga

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NOTE

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4 THEORETICAL FRAMEWORK

Each study has its own particular requirements; different approaches are suitable in different contexts. Patton (1900) suggests that there is no ‘one right’ direction to take as each approach has its perceived strengths and limitations and advocates for ‘methodological appropriateness’. The methods of data collection and data analysis for this research were selected according to the context of this inquiry and the required information.

This inquiry is qualitative in design working within the emancipatory/tranformative paradigm (Mertens, 2005). Within the transformative paradigm, this research can be explained as a case analysis of action research.

Figure 4.1 demonstrates the choice of and relationship among research methodologies and chosen for this inquiry.

![Figure 4.1: Design of study](image)

4.1 Theoretical Assumptions

In this section, a perspective on the theoretical assumptions of this inquiry is discussed. In particular the qualitative nature of the inquiry is examined and insight is given into the researcher’s theoretical approach (emancipatory) that guides and directs the researcher’s thinking and actions. The methodological principles and consequent
research practices used throughout this inquiry are justified. Finally the use of a comparative case analysis is examined as the basic design of this inquiry.

4.2 Qualitative Design

Qualitative research emphasises the credibility of multiple meaning structures and holistic analysis (Burns, 2000:11). Furthermore Burns (2000:388) suggests that “the qualitative researcher is not concerned with objective truth, but rather with the truth as the informant perceives it”. This is known as the social reality of the participants. Burns (2000) explains that social reality is the result of ‘meaningful social interactions’ as perceived from the perspectives of those involved (participants), rather than from the perspective of the observer (researcher). Therefore this inquiry made use of participant interviews, reflective journals and observations to gain insight into the social reality and perceptions of the participants within their local settings.

As qualitative researchers are interested in understanding the experiences of people in context, it appears reasonable to suggest that qualitative research takes place in a natural setting, because “it is here they believe they are most likely to discover (some say uncover) what is known about the phenomena of interest” (Wallen & Fraenkel, 2001:434). Therefore, the predominant data-gathering methods this inquiry include participant observation and interviews, because “qualitative methods attempt to capture and understand individual definitions, descriptions and meanings of events” (Wallen & Fraenkel, 2001:388) within their natural setting. In addition, Wallen and Fraenkel (2001:432) believe that in qualitative research there is a greater emphasis on “holistic description – that is, on describing in detail all of what goes on in a particular activity or situation”. Therefore the researcher, as a qualitative methodologist, captured what the participants said and did, via observation, interviews and the collection of photographs, and as a result gained further insight into how the participant interprets and understands events from their viewpoint.

4.3 Emancipatory Paradigm

Mertens (1998:6) explains that “a paradigm is a way of looking at the world [and] is composed of certain philosophical assumptions that guide and direct thinking and
action”. According to Denzin and Lincoln (2000), the paradigm or interpretative framework is a basic set of beliefs that guides action. Such beliefs touch our daily lives in a modern world so that all research is interpretative, guided by the set of beliefs and feelings about the world. Each interpretive paradigm makes demands on the researcher, in the questions asked and the interpretation the research brings to them. This includes theories about discovering knowledge, gaining understanding, and making judgements about the credibility and authenticity of findings, which direct the particular mode or method of enquiry in a study.

Mertens (2005:7) identified four paradigms or methodologies of research: the positivist or empirical-analytical, the interpretivist, the critical, and the post-structural. Each of these provides a philosophical framework for addressing particular types of research objectives/questions. The objective of the four paradigms are: to predict (postpositivist); to understand (constructivist), to emancipate (transformative); and to deconstruct (pragmatic).

Table 4.1: Paradigms of post positivist inquiry identified in Mertens (2005)

<table>
<thead>
<tr>
<th>Predict/Postpositivist</th>
<th>Understand/Constructivist</th>
<th>Emancipatory/Transformative</th>
<th>Deconstruct/Pragmatic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postpositivist</td>
<td>Interpretive Naturalistic Constructivist Phenomenological Hermeneutic Symbolic interaction Microethnography</td>
<td>Critical Neo-Marxist Feminist Race-specific Praxis-oriented Freirean Participatory</td>
<td>Post-structural Post-modern Post-paradigmatic diaspora</td>
</tr>
</tbody>
</table>

Each of these methodologies has an appropriate role to play in educational research, depending on the question, issue or problem being investigated. This inquiry draws upon the emancipatory/transformative research paradigm, as the purpose is participatory. The rationale behind this choice of paradigm is explained below.

The theoretical framework for this study is participatory and, as such, lies within the emancipatory/transformative paradigm (Mertens, 2005). It is based upon action research (Lewin, 1946). Lewin originally described action research as a process that involved a
spiral of steps, each of which was composed of planning, action and evaluation of the results of the action. This process is depicted in Figure 4.2. In this step-by-step approach, insights into complex situations are obtained. With each step insights gradually build up. The research process is determined by stages of information gathering, planning of actions, evaluation of those actions and re-planning for a new cycle in the light of the insights that were gained in the previous cycle of the spiral.

Figure 4.2: The Action Research Spiral

In the context of this study the process began with the need to improve the methods of crop pest control in Tonga as poor farming practices have led to increased agricultural
runoff of harmful chemicals such as pesticides and fertilizers and this is having an adverse effect on both terrestrial and aquatic systems which in turn impacts on coastal fisheries and other marine life. For example, Murray (2001:141) reported that the environmental cost of the squash pumpkins industry in Tonga is extremely large to the soil ecosystems, groundwater supplies and human health because of the use of pesticides and fertilisers in large quantities. Van der Velde et al., (2006:460) showed that annual fertiliser use in Tongatapu (26,000 ha) has increased from about 5 kg ha$^{-1}$ at the end of 1980s compared with 80 kg ha$^{-1}$ at the end of the 1990s. The replacement of appropriate traditional farming practices with cash monocultures has raised local social and environmental vulnerability because of an increased chemical load on the fragile environment of Tonga.

To begin the process of improvement described in this study, it was important to raise public awareness and to seek group identification and support of the changes in practice needed to promote ecologically sustainable development (Pelesikoti, 2003; GEF/UNDP/SPREP/IWP/DoE – Tonga, 2003 & 2004; Dekker, 2002). Changes in practice were needed to promote self-sufficiency and minimise the detrimental impacts of negative farming practices on the environment and resources of Tonga. Examples of such changes in practice are the suitable use of agrochemicals, and the use of alternatives for sustainable ecological agriculture, such as home gardens, mixed cropping and legumes to maintain soil fertility (Dekker, 2002; Evans, 2007; Murray, 2001; PASA/TCDT, 2004). Thus the group involved in the research decided to work together on an area of ‘thematic concern’ (Kemmis & McTaggart, 1988, 2003). In this case the thematic concern was the promotion of ecological sustainable agriculture practices in the communities of the participants.

To achieve this goal it was necessary to break this general theme down into a series of achievable steps. According to Kemmis and McTaggart (1988) this process starts with ‘a change in strategy that aims not only at improvement, but at greater understanding at what will be achieved later’ (p.8). However, before taking this first step the action research group needs to devise ways of monitoring the effects of the first action step.

Whyte (1995) claims that action research is an effective means of transforming development projects designed to improve the welfare of the participants because they
enable ‘grass roots’ community participation in the planning of projects. But, he points out that action research can take place without any participation of the subjects in the research process (p.289); that ‘participatory action research involves some members of the subjects of the study participating actively in all phases of the process, from the design of the projects, through its implementation, and including the actions that come with or follow up the research’ (p.290). Further, he believes that participatory action research is a powerful strategy that can make credible research and important practical contributions to society. As a result a participatory action research methodology (PAR) was deemed suitable for this study.

The operation of this methodological framework is briefly discussed under the headings of: PAR as a methodology and the implementation of the fieldwork with research activities. A more extensive discussion will occur in the next chapter as the purpose here is to provide an introduction to PAR and to show how the methodological framework was put into operation.

4.3.1 Participatory action research as a methodology

The origins of PAR can be traced back to Lewin (1946) but Whyte (1995) believes that his work with the Street Corner Society, published in 1935 is also a form of PAR. Their ideas can be seen as an attempt to bridge the gap between science and practice. Lewin (1953:280) argues that “research which produces nothing but books is not sufficient”. This statement mirrors the researcher’s own feelings about the review of past programs in Tonga as they often had little practical impact on farmers and produced little beyond reports. Thus, the researcher was motivated to find ways that would help to bridge the gap between science and ecologically sustainable practice in Tonga. Participatory action research was seen as an explorative qualitative research method that had the potential to fulfil this purpose.

Participatory Action Research (PAR) is defined as “a contested concept applied to a variety of research approaches employed in a diversity of fields and settings” (Kemmis & McTaggart: 2003:335). Collaborative action research emphasises the interdependence of activities between university academics and practising educators in particular. Moreover, participatory action research recognises the practical and theoretical convergences that could exist between the work and activities of people engaged in
several different fields. Thus, PAR is a guideline for participants interested in improvement and organisational change. It encourages participants to think systematically about what happens in the situation under review and to articulate actions required for improvements, and to suggest methods of evaluating the impact of such actions for further improvement.

Participatory Action Research (PAR) is seen as an alternative philosophy of social research and is often associated with social transformation in the Third World. It is based on “liberation theology” and neo-Marxist approaches to community development in Latin America. Three particular attributes are often used to distinguish PAR from conventional research including shared ownership of research projects, community based analysis of social problems, and an orientation toward community action.

In the past the scientific acceptability of qualitative methods was questioned, but today this discussion has become less controversial and the use of qualitative methods has been more widely accepted. For example, as Wolcott (1990:26) states, “There is no longer a call for each researcher to discover and defend them anew.”

By way of contrast, action research is a generic term is defined by Kemmis and McTaggart (1988:5) as “a form of collective self-reflective enquiry undertaken by participants in social situations in order to improve the rationality and justice of their own social and educational practices, as well as their understanding of these practices and the situations in which these practices are carried out”. Action research, in a generic sense, is simply the way groups of people can organise the conditions under which they can learn from their own experience and make this experience accessible to others.

The term action research is often applied to methodologies that purposively consists of action and research. Actions could bring out change such as in communities or organizations where the research could increase the understanding of the researcher or the clients (Dick, 1993 & Bawden, 1989). Kemmis and McTaggart (1988:22-25) outlined the features of action research approach including:

- improving education by changing it and learning from the consequences of changes;
• developing through a self-reflective spiral cycles of planning, acting (implementation), observing (systematically), reflecting, replanning, further implementation, observing, and reflecting;
• working participatively towards the improvement of their own practices;
• working collaboratively to improve both the advantaged and the disadvantaged groups;
• involving participants in theorizing about their practices – being inquisitive about circumstances, action, and consequences, and coming to understand the relationships between circumstances, action and consequences in their work and lives;
• participants testing their practices, ideas and assumptions about institutions to prove that their results are correct or not;
• keeping records of data collected and analysing evidence about the contexts, commitments, conduct and consequences of the actions and interactions;
• allowing participants to keep recording their improvements;
• starting small;
• involving participants in making critical analyses of the situation.

However, PAR places a greater emphasis on the participation of the community and it for this reason that PAR became the methodology of choice in this study.

4.3.2 Sites and settings for PAR
PAR is typically undertaken by low socio-economic urban communities, more remote and resource - poor rural areas, unregulated industries, neighbourhoods with a high level of unemployment and by street dwellers (Kemmis & McTaggart, 2003). Its proponents are the poorest of the poor, deprived and exploited people working in collaboration with *animateurs* from universities, agricultural extensions agencies, community development organizations, churches, and/or labour unions. In developed countries, PAR approaches have been adopted by the academics committed to work with community groups. PAR has been conducted in a variety of settings with a variety of groups in education, social work, health care, natural resource management and urban planning.
4.3.3 Criticisms of PAR

PAR could be criticised for lack of scientific rigor, confusing social activism and community development with research (Kemmis & McTaggart, 2003). These practices may employ desirable means and serve as well a desirable end, but may confuse them with rigorous research. The proponents of PAR are sometimes accused of close interaction and identification with the communities they study and they also see themselves as special and different. As a result, they alienate potential allies among alternative research proponents in the academy.

4.4 Other forms of Action Research considered

The other forms of action research considered are briefly discussed along with limitations and criticisms.

4.4.1 Critical Action Research

Critical Action Research is an attempt to bring together broad social analyses including the self-reflective collective self-study of practice, the way language is used, organization and power in a local situation, and action to improve things. It is applied into the literature of educational action research including dissatisfactions with classroom action research that does not understand the roles of and relationship between education and social change. Critical action research projects typically include mixed groups of participants such as university researchers, teachers, principals, curriculum developers, community members and others with interests and expertise in the action and inquire.

Critics claim that critical action research may be regarded as a dangerous vehicle for importing radical ideology into social settings. This could be problematic in conservative societies such as Tonga and therefore, was not used in this study.
4.4.2 Classroom Action Research

Classroom action research makes use of interpretive modes of inquiry and data collection by teachers. The purpose is for teachers to make judgements about how to improve their own practices (Kemmis & McTaggart, 2003). The key participants in classroom action research are teachers and sites are typically school settings.

Classroom action research is sometimes criticised for the prominence it gives to teachers’ knowledge in comparison with other views of what is happening in schools. The privileging of teachers masks the assumption that significant improvement in classrooms can be accomplished in the absence of broader patterns of community support and social change. Community involvement and engagement is the very essence of the Polynesian way of life and classroom based action research had potential but the context of this study was adult learners in informal settings. Therefore, this approach was not appropriate.

4.4.3 Action Learning

Action learning is based on the view of traditional approaches to management inquiry as unhelpful in solving organisational problems. Action learning could bring people together to learn from each other’s experience. There is an emphasis on studying his/her own learning situation, clarifying what the organization is trying to achieve and working to remove obstacle. Action learning began as an approach to management development and still has that focus predominantly on business settings and public sectors including hospitals and public housing estates. There is a tendency to emphasise efficiency (or potential co-optability) rather than values and purposes of the organization and the different values and concerns of the participants at different levels and in different parts of the organization. As emphasis is on workplace learning and individual organisational development, this approach was not considered appropriate for the context of this study.

4.4.4 Action Science

Action science is a study of practice in organisational settings as a source of new understandings and improved practice. It is mainly built on the relationship between academic organisational psychology and practical problems as they experienced in organizations. It identifies two aspects to professional knowledge: the formal
knowledge that all competent members of the profession are thought to share and into which professionals are induced during their initial training; and the professional knowledge of interpretation and enactment. The approach has been used in a wide variety of professional occupations.

Action science focuses on the application of evidence-based theory to a particular problem. Participant success is judged on how well the “espoused theory” is adopted and applied to the problem at hand, but often the externally imposed theory does not match a grounded, researcher-described theory of the real context. As a result there is often alienation and frustration from the perspective of stakeholders. Once again this approach was considered inappropriate for the context of this study.

4.5 An example of past use of Action Research in Tonga

Toafa (1994:9) described the use of action research as a tool approach aimed to improve the understanding and practices of the people involved in the pumpkin (squash) industry in Tonga. Toafa (1994) reported that during group meetings and discussions, participants identified the strengths, weaknesses, opportunities and threats of his project. When the discussions and group meetings were held during this project, participants were encouraged to discuss their concerns openly, explore what others thought, and were probed by the researcher to find what might be possible actions. In this way they decided what would be feasible to work on as a group project (Toafa, 1994).

However, as reported in Chapter 2, in 2004, Tongan farmers suffered large income losses when the Japanese market was flooded with squash from Russia and China (Vava’u Press Ltd, 2004). It has been suggested that the people involved in the action research project described by Toafa may not have suffered economic losses as the outcomes of the project cushioned the impact of over-reliance on one crop, as farmers who continued with a more traditional approach to agriculture appeared to suffer less financial losses during this time (‘O. Fakalata, personal communication, April 22nd, 2006).

Currently, there are farmers who owe the Development Bank of Tonga and the Asian Development Bank large amounts of money after securing loans for cash crops (squash)
that they could not sell at a profit. Many have had their land resumed and leased to other parties (‘O. Fakalata, personal communication April 22nd, 2006).

4.6 **Justification of PAR as a theoretical framework**

The term “participatory action research” refers to the family of approaches and methods that use dialogue and participatory research to enhance participant’s awareness and confidence as well as empowering their action. Paulo Freire’s book *Pedagogy of the Oppressed* (1968), discusses the practice and his experience of this approach in Latin America. Friere’s (1968) argument was that the poor and the exploited people should be enabled to conduct their own analysis of their own reality has been widely influential.

The participation and empowerment of local people on development projects are the basis of Participatory Action Research (PAR) and this is the reason for choosing this theoretical framework for the methodology. In the past, many social researchers have unconsciously or even consciously taken an elitist stance in designing and implementing field research. The conventional assumption has been that research is a professional activity and therefore should be designed, implemented and reported by professionals (Whyte, 1995:289). This view helped to justify the elitist stance taken by researchers. PAR was used in this study to address this problem, by encouraging groups of women and young farmers to participate actively on the project as well as knowing how to better advance their means of livelihood and standard of living.

According to Whyte (1995), many researchers and professional change agents assert that traditional, top-down bureaucracies do not allow local people and farmers to meaningfully participate in the planning and designing of projects that purport to improve their welfare. PAR by comparison permits local communities to determine actions that are followed-up with research and/or further development project.

4.7 **Implementation of fieldwork with research activities within a PAR framework**

During the SUOP and ESAP research project, participants were initially visited by the research officer to discuss an overview of the project. An appropriate time was given for them to discuss the project before confirming their participation or not. After
confirming their participation, they were encouraged to participate during the planning, development, implementation, monitoring and evaluation of the projects.

The implementation of the fieldwork with all research activities and important aspects of the research process are discussed below. Table 4.2 provides a summary of the activities as previously displayed in Table 3.1 but it now outlines the research activities that occurred. The events have been divided into six phases that were four to six weeks in length.

**Table 4.2: Implementation of the fieldwork and the research activities**

<table>
<thead>
<tr>
<th>Phase</th>
<th>Field activities - time frame allowed for each phase was four to six weeks</th>
<th>Related research activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Individual interviews</td>
<td>Responses recorded as notes that were verified by subjects</td>
</tr>
<tr>
<td></td>
<td>Group meetings and community talks</td>
<td>Observations and key ideas recorded as field notes</td>
</tr>
<tr>
<td>2</td>
<td>Group meetings and training workshops</td>
<td>Observations and key ideas recorded as field notes, photographs</td>
</tr>
<tr>
<td></td>
<td>Visits to demonstration sites and home gardens</td>
<td>Observations and photographs</td>
</tr>
<tr>
<td></td>
<td>Drama presentations</td>
<td>Newspaper article and recordings of radio and television interviews.</td>
</tr>
<tr>
<td></td>
<td>Newspaper articles and radio and television interviews</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Home garden visits</td>
<td>Observations and key ideas recorded as field notes, photographs</td>
</tr>
<tr>
<td></td>
<td>Individual interviews about the structure of the remaining phases</td>
<td>Responses recorded as notes that were verified by subjects</td>
</tr>
<tr>
<td></td>
<td>Updating plans for future phases</td>
<td>Recorded as notes</td>
</tr>
<tr>
<td>4</td>
<td>Networking and collaboration with government, village and church committees to form village planning committees</td>
<td>Observations and key ideas recorded as field notes, photographs for all events</td>
</tr>
<tr>
<td></td>
<td>Planning of village cleanup program and the involvement of local high schools (22)</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Development of training information for the whole community in local languages</td>
<td>Observations and key ideas recorded as field notes, photographs for all events</td>
</tr>
<tr>
<td></td>
<td>Presentation of gardens to local community members and participants, including secondary school students</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Publicity via newspapers, radio and television</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Drama presentation to school students and local community members to reinforce the key skills</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Exchanging and sharing of experience among</td>
<td>Observations and key ideas recorded as field notes</td>
</tr>
</tbody>
</table>

The implementations of the fieldwork with all research activities and important aspects of the research process are discussed below. Table 4.2 provides a summary of the activities as previously displayed in Table 3.1 but it now outlines the research activities that occurred. The events have been divided into six phases that were four to six weeks in length.
Table 4.1 summarises the major fieldwork and research activities that occurred. It also identifies the data-gathering tools applied in the research process. The field activities outlined in table 4.1 are similar to an approach known as participatory rural appraisal, PRA (Chambers, 1994a). The term PRA describes ‘a growing family of approaches and methods that enable local people to share, plan and analyse their knowledge of life and conditions, to plan and act’ (Chambers, 1994a, p.1437). As such PRA has grown out of the traditions and methods of participatory action research championed by pioneers such as Freire (1968, 1973) and later Whyte (1995). It also draws upon field research in farming systems (Gilbert, Norman and Winch, 1980) and agro-ecosystem analysis (Conway, 1985) as well as rapid rural appraisal (RRA) (Longhurst, 1981). PRA shares some of its principles with RRA; e.g. direct learning from local people, offsetting biases, optimising tradeoffs, triangulation and seeking diversity. Direct learning from local people refers to the use of traditional agricultural practices and knowledge of the community to improve current practice; offsetting biases refers to a process of dialogue and discussion that ‘uncovers’ community biases that may impact on the success of a program; triangulation refers to the use of multiple data sources to verify the accuracy of information provided; and seeking diversity refers to the ability of facilitators to seek out the range of opinions, practices and knowledge held within a local community. Such principles guide community education programs as well as community actions.

According to (Chambers, 1994a:953), PRA has been called an approach and methods for learning about rural life and conditions from by rural people. PRA is more than learning. It is a process which extends into analysis, planning and action and the
information is shared and owned by local people. PRA methods are more visual, more active, but methods are now largely shared by local people. PRA grew out of a series of approaches that are briefly summarised below. These approaches include agroecosystem analysis, applied anthropology, and rapid rural appraisal (RRA).

4.7.1 Agroecosystem analysis
In 1978, agroecosystem analysis (Conway, 1985) was initially developed in Thailand at the University of Chiang Mai by Gordon Conway and his colleagues, drawing on systems and ecological thinking combined with the analysis of the system and its properties in regards to productivity, stability, sustainability and equality (Chambers, 1994a:954). Chambers (1994a) also argued that such analysis was powerful and practically overlapped with and contributed to RRA. Some of the contributions of the agroecosystems analysis to RRA and PRA included transects, informal mapping, diagramming and innovative assessment. Transects can refer to the process of surveying a representative cross section of: a community farming activity; community land use or community resources. Informal mapping and diagrams, and innovative assessment are often a suite of techniques that allow local community members to accurately represent to others their current agricultural practices.

4.7.2 Applied Anthropology
Social anthropology is more concerned with understanding communities than with changing their practice. According to Chambers (1994a:955) social anthropology provides insights, approaches and methods, including the idea of field learning. Applied anthropology values field residence, unhurried participant-observation, and conversations.

4.7.3 Rapid Rural Appraisal and Participatory Rural Appraisal
The philosophy, the approaches and methods known as rapid rural appraisal (RRA) began to emerge in the late 1970s. According to Chambers (1994a:955), many workshops were held at the Institute of Development Studies, University of Sussex on rural development tourism in 1977, indigenous technical knowledge in 1978, and RRA itself in 1978 and 1979. The purpose of the workshops was to search for better ways for outsiders to learn about rural life and conditions. Chambers (1994a:956) discussed three origins of RRA including (i) dissatisfaction with the biases of either the anti-poverty
movement, or rural development tourism; (ii) disillusionment with the processes of questionnaire-surveys and their results which tended to be drawn out, tedious, a headache to administer, a nightmare in the process and to write up, inaccurate and unreliable in data obtained; (iii) more cost-effective methods of learning for the development professionals recognised that rural people are knowledgeable on many subjects which touched their lives.

RRA began and continues as a better way for outsiders to learn by gaining information and insights from local people about the local conditions where much of the respondent’s time is taken by the outsiders and little or nothing is given back. There is a risk that it could lead to teaching and learning by rote, the ritual performance of methods for their own sake and a loss of flexibility. It has also been said of RRA that it may not always be rapid, nor rural, nor appraisal (Chamber, 1994a:959). Table 4.3 depicts the similarities and differences between RRA and PRA.

**Table 4.3: Comparison of RRA and PRA**

<table>
<thead>
<tr>
<th></th>
<th>RRA</th>
<th>PRA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Period of major development</strong></td>
<td>Late 1970s, 1980s</td>
<td>Late 1980s, 1990s</td>
</tr>
<tr>
<td><strong>Major innovators based in</strong></td>
<td>Universities</td>
<td>NGOs</td>
</tr>
<tr>
<td><strong>Main users at first</strong></td>
<td>Aid Agencies, Universities</td>
<td>NGOs, government field organisation</td>
</tr>
<tr>
<td><strong>Key resource earlier undervalued</strong></td>
<td>Local people’s knowledge</td>
<td>Local people’s analytical capabilities</td>
</tr>
<tr>
<td><strong>Main innovations</strong></td>
<td>Methods, team management</td>
<td>Behaviour, experiential training</td>
</tr>
<tr>
<td><strong>Predominant mode</strong></td>
<td>Elicitive, extractive</td>
<td>Facilitating, participatory</td>
</tr>
<tr>
<td><strong>Local objectives</strong></td>
<td>Learning by outsiders</td>
<td>Empowerment of local people</td>
</tr>
<tr>
<td><strong>Sources of information</strong></td>
<td>Secondary sources i.e. semi structured interview, reports and verbal interaction</td>
<td>Key informants i.e. local people, observation and practical activities</td>
</tr>
<tr>
<td><strong>Long term outcomes</strong></td>
<td>Plans, projects publications</td>
<td>Sustainable local action and institutions</td>
</tr>
</tbody>
</table>

*Source: Modified from Chambers, 1994a:958 - 959.*
It can be seen that PRA focuses more on the empowerment of local people and the main approaches involve facilitating and participatory action whereas RRA is more reliant on external input. As such RRA is less empowering than PRA. By the mid-1980s, the words ‘participation’ and ‘action’ were also adopted into RRA vocabulary.

Table 4.4 shows the continuum of approaches used by both methods. The linkage between these approaches are discussed after the table.

**Table 4.4: The RRA – PRA continuum**

<table>
<thead>
<tr>
<th>Name of the process</th>
<th>RRA</th>
<th>PRA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mode</strong></td>
<td>Extractive ---- Elicitive</td>
<td>Sharing ---- empowering</td>
</tr>
<tr>
<td><strong>Outsider’s role</strong></td>
<td>Investigator</td>
<td>Facilitator</td>
</tr>
<tr>
<td><strong>Information used and analysed and used by</strong></td>
<td>Outsider</td>
<td>Local people</td>
</tr>
<tr>
<td><strong>Methods used</strong></td>
<td>Mainly RRA plus sometimes PRA</td>
<td>Mainly PRA plus sometimes RRA</td>
</tr>
</tbody>
</table>

*Source: Modified from Chambers 1994a:959.*

The table shows that both PAR and PRA are families of approaches which emphasise the importance of integrating people participation in the projects. More opportunities are given for local people to share their knowledge, skills and experience and to empower their participation in the project. The participants should collect and analyse the information during the project.

PRA is designed to get people to take action for their community. It is easy to implement because it is intended that people participate in programs designed to serve their community. Chambers (1994a: 959) argued that one of the PRA principles is to “use of your own best judgement at all times” to encourage creativity. It allowed participants to work in groups as this is often a preferred way of working in indigenous communities. In most local communities in Tonga, the members of the community are collectively capable of achieving a project but not necessarily so as individuals.
4.7.4 Criticisms of PRA

PRA was designed to gather information in full collaboration with stakeholders (Loader & Amatra, 1999). The respondents provided information according to the questions asked but the opportunities for the appropriate application of relevant techniques were sometimes overlooked as often PRA as a process only facilitated the understanding of problems among rural people, acknowledged priorities and the need to be sensitive to local conditions, but did not provide enough focus on actions to address the problems (Chambers, 1994a & b; Chambers, 1997). Where PRA makes use of quantification or classification techniques such as matrix or ranking or more complex analytical tools to add value this can compromise the ownership of the project and the validity of the outputs from the view-point of the stakeholders because they do not understand the techniques involved.

Loader and Amartya (1999) reported that in Nepal, farmers’ rice variety choices were investigated using Participatory Rural Appraisal (PRA) techniques (matrix and ranking) but the project only assessed possibilities. Martin and Sherington (1997) suggested that PRA should include research into assessing the relevance of different statistical techniques relevant to participatory research situations. The limitations imposed by formal survey techniques and the impossibility of gathering information by more ‘sophisticated’ methods was a major issue, not only in Nepal but in other developing countries (Loader & Amartya, 1999:74). Loader and Amartya (1999), suggest the low levels of formal education and postal problems in many countries were contributary factors.

Cashley and Lury (1987:2) reported that at times PRA practitioners applied methods that used sophisticated techniques that were inappropriate in the context. They reported that logistic and staffing difficulties often led to a design that was misleading, even though it was termed “optimal” because it satisfied imposed technical criteria. However, it was sub-optimal because the circumstances in which the process had to be carried out often led to failure (Cashley & Lury, 1987; Loader & Amartya 1999). The minimum amount of information required to meet policy needs should be collected and then plans for activities such as site visits, observation, developing attitudes, reporting, ranking on site need to be developed rather than focusing on the collecting of excessive information as an end point.
4.7.5 *PRA approaches in Tonga*

Crowley et al. (2003:79) claimed that there is a common view among private sector stakeholders that the Ministry of Agriculture, Forestry and Fisheries (MAFF, 2002) extension and research services provided little benefit to farmers. Crowley et al., also reported that even the Tonga Ministry of Finance expressed concerns to the Asian Development Bank (ADB) that the agricultural sector was not contributing to the overall growth of the Tongan economy as their research showed that its contribution to gross domestic product (GDP) fell from 30% to 25%. Further, his situational and diagnostic analysis of the forestry and agriculture sector projects showed that many of the projects were not implemented enthusiastically. Crowley et al., (2003) asserted that the projects were mainly designed from outside rather than within Tonga, and failed to take into account the circumstances unique to the Tongan economy and society. Some examples from his report follow. Although the report is decade old, the context has undergone little change.

According to Crowley et al. (2003:80 - 81), a survey conducted by MAFF in 1999 analysed the effectiveness of the extension service following the restructure of MAFF and reported:

- about half of the farmers interviewed in Vava’u said that they did not get access to agricultural information;
- a third of the farmers surveyed in Tongatapu and almost half of the farmers in Vava’u said MAFF extension services did not meet their need;
- half of the farmers surveyed in Tongatapu and two thirds of the farmers interviewed in Vava’u believed that the number of extension officers was not sufficient to service farmers in the districts;
- about 40% of farmers interviewed in Tongatapu and 52% in Vava’u said that the MAFF restructure strategy would not make any improvement on MAFF extension services.

Thus, the surveys show that the implementation of PRA in Tonga has met with limited success and the next section discusses these limitations.
4.7.6 The limitations of PRA

Sample survey work conducted by MAFF showed that PRA approaches were not aligned with the transfer of technology. As a result, PRA was not successful in the transfer of technology because explicit demonstrations and formal training were often needed to supplement PRA processes. Thus when PRA is used in isolation success is often limited as it needs guidance from research into the specific educational and social needs of the targeted community. Participatory Action Research (PAR) is seen as providing such guidance, as it takes into account the participation of the community as a whole. However, it is also important to acknowledge the contributions of various participatory approaches to the body of research findings. Table 4.5 is based on the work of Chambers et al. (1989:182: Table 1) and Loader & Amartya (1999), and compares different approaches. The categories developed are arbitrary in one sense but they do provide a way of looking at the approaches from different perspectives.

Table 4.5: Research approaches comparison

<table>
<thead>
<tr>
<th></th>
<th>Transfer technology (sample survey)</th>
<th>Farmer first (PRA)</th>
<th>Decision (user)-driven</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Main objective</strong></td>
<td>Transfer technology</td>
<td>Empower farmers</td>
<td>Provide policy / management information</td>
</tr>
<tr>
<td><strong>Analysis of needs and priorities</strong></td>
<td>Outsider</td>
<td>Farmers assisted by outsiders</td>
<td>Policy and managers</td>
</tr>
<tr>
<td><strong>Primary R &amp; D location</strong></td>
<td>Experiment station, laboratory, greenhouse</td>
<td>Farmers fields and conditions</td>
<td>Both</td>
</tr>
<tr>
<td><strong>Main R &amp; D practices</strong></td>
<td>Precepts, messages, packages of practices</td>
<td>Principles, methods, baskets of choices</td>
<td>Knowledge and ownership of knowledge (not only to farmers)</td>
</tr>
<tr>
<td><strong>Menu</strong></td>
<td>Fixed</td>
<td>À la carte</td>
<td>Blended</td>
</tr>
</tbody>
</table>

*Source: Adapted from (Chambers et al. 1989; Loader & Amartya 1999)*

From table 4.5, it can be seen that the PRA approach, which is more user driven, is more aligned with the needs of the farmer stakeholder than others by emphasising local knowledge and ownership.
The challenges encountered by PRA approaches today include how to develop an approach and disseminate the information to help farmers carrying out their own analysis and actions (Chambers, 1997). Therefore an education program may be needed to enhance the educational potential of PRA and this study is designed to support such an approach through the judicious application of supporting educational theory. As such, the study not only has the potential to benefit Tonga but may also benefit other nations in the South Pacific.

During this study the researcher, acting as facilitator, established learning environments which he hoped would immerse in and motivate learners to become better informed about SUOP and ESAP during the training workshops, interviews, field trips, home visits, and community talks. The role of the researcher and that of other actors in the research process is discussed in more detail in Chapter 5. Also Chapter 5, describes the research methodology for this study and builds upon the framework developed in this chapter.