

Chapter 4

Methodology

4.1. Introduction

As mentioned in Chapter 1, the main goal of this study is to improve our understanding of the process of scaling up local-level NRM initiatives in order to be better able to plan and implement scaling up interventions. To address this goal, a case study was undertaken of the Landcare Program in northern Mindanao. A case study design with four embedded case studies was used to address the objectives of the study. The study emphasises the involvement of key actors in the scaling up process, the extent to which the landcare approach is adopted, the resources used and outcomes of the different modes of scaling up, and the factors that enhanced or constrained success. The case studies were generalised to identify new concepts and develop propositions that link the applicability of some key findings to other situations.

The study relied on the following sources of data: (1) four respondent groups, namely farmers, local government officials, Landcare facilitators and project staff, and non-government organisations (NGO) and project partners; (2) local government profiles; (3) ICRAF database and documents; and (4) participant-observation. Data from these sources were obtained through (1) semi-structured interviews, (2) focus group discussions (FGD), (3) key informant interviews, and (4) document review and analysis of quantitative data. Key figures of the Australian Landcare Program were also interviewed. In addition, my personal reflective analysis has contributed significantly on account of my previous involvement with the investigated case. A total of 517 participants were involved in interviews and FGDs (Table 4.1). Data from the case study sites were collected during fieldwork from July 2002 to March 2003 and from November 2003 to March 2004.

Table 4.1 Total case study participants

Participants	Number
Farmers (Landcare members and officers)	425
Local government officials	49
Landcare facilitators and project staff	18
NGO and project partners	17
Key informants from Australian Landcare	5
Total	517

4.2. Research Design

As mentioned in Chapter 2, the actor-oriented paradigm in rural sociology provided the theoretical grounding for this study. I was interested in describing and explaining a certain phenomenon that is socially constructed-- the scaling up process of the Landcare Program. The nature of the case, the highly interactive relation of actors and site-specific variables required a realistic understanding of the context in which the case was to be studied. The main task was to explicate the ways, in which different actors in the Landcare Program come to discern, take action, and manage their situations.

First, I sought to find out how the Landcare Program was implemented on the ground. I examined the reality of program implementation based on the activities implemented and their outcomes. The human, material, and financial inputs to the Landcare Program were therefore taken account. Second, I sought to understand the perspectives of different actors, to find out how the Landcare Program was given meaning by different actors. Thus I was more eclectic in using multiple strategies and methods, as qualitative research suggests (Punch 1998), to account the full reality of the case. Ultimately, I build knowledge of the case in question, through description, explanation, and conceptualisation.

4.2.1. Case Study Approach

Stake (1988) defines a case study as a study of a bounded system, emphasising the unity and wholeness of that system, but confining the attention to those aspects that are relevant to the research problem at the time. As a strategy, it aims to understand the case in depth, its natural setting, recognising its complexity and its context. It has a holistic focus, that is, it aims to preserve and understand the wholeness and unity of the case (Punch 1998;2000). Thus the case study approach has wide applicability to various types of sociological research.

In one sense, this research is a large single case study of the scaling up of the Landcare Program in the southern Philippines. However, the study covered several cases to learn more about the phenomenon, hence it is also classified as collective case study (Punch 1998) or multiple case studies (Yin 1994b). For Yin (1994b), multiple case studies is a Type 4 case study design, emphasising the use of embedded units of analysis.

As mentioned above, embedded within this large case were four case studies comprising the original Landcare site and three scaling up sites, through which different modes of scaling up were implemented. Each study site was a case in itself with embedded units of analysis, but each case was treated as a unit of analysis for the whole case. Figure 4.1 presents the case study framework.

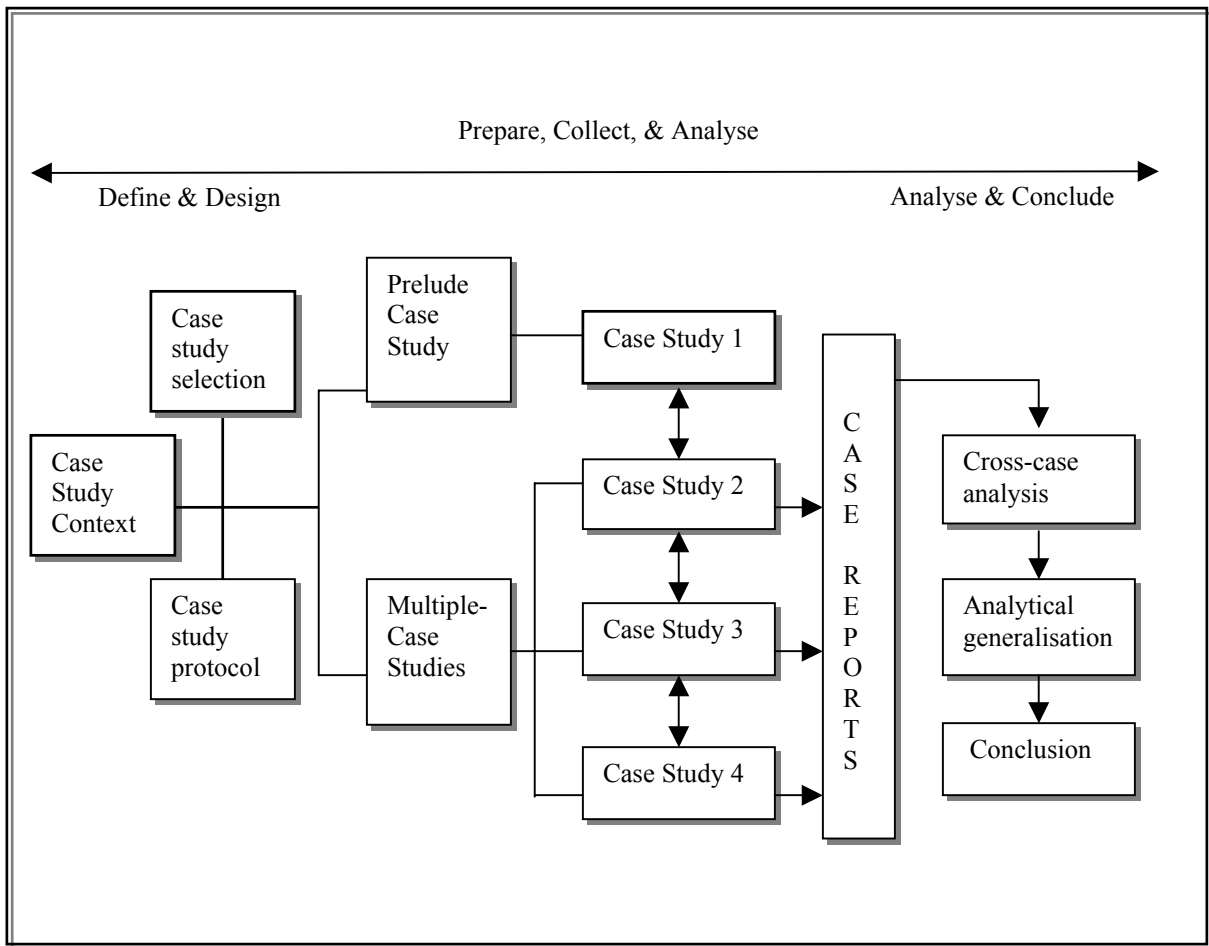


Figure 4.1 Case study framework (Adapted from Yin 1994)

The case study focused on the actions of key actors in the Landcare Program, namely the supporting institution (ICRAF), landcare groups, local government units (LGUs), and NGOs and project partners, as well as the settings of the incidents, the events, and the outcomes of the whole scaling up experience. I was interested in understanding better the depth of the case as well as in examining the case to provide insights into several issues and concepts of scaling up. This type of inquiry falls under what Punch (1998) describes as instrumental type of case study.

4.2.2. Researcher's Role

It was hard to delineate my exact role in this research because of my previous involvement in the investigated case. Prior to this study, I was employed with the World Agroforestry Centre (ICRAF) as Natural Research Management Research Officer and Manager at its research site in Lantapan, Bukidnon Province. I was then involved in action research to test the different modes of scaling up Landcare in the province of Bukidnon under the Philippines-Australia Landcare Project for three years. My role at that time was more of a participant-observer, although it was concealed beneath my managerial role in the Landcare Program.

Direct fieldwork or participant observation is now widely used as a sociological approach to research fieldwork. It originates from the studies of a whole range of social organisations (e.g., modern communities, bureaucracies, hospitals, families) carried out by scientific observers who have in some sense, actually abided in these organisations through the course of their studies, scrutinising in depth virtually all aspects of the complex functioning of these units (Gold 1969). Participant observation is not a single method but rather a characteristic style of research, which makes use of a number of methods and techniques. In this regard, four theoretical possible roles for conducting research fieldwork have been suggested, ranging from complete participant at one extreme to the complete observer at the other (Gold 1969).

Conveying my field experience through formal academic research was a dilemma, as I have struggled to distance myself from the investigated case. However, Yin (1994b) says that prior knowledge or the experience of the researcher in the investigated case offers some advantages, because the researcher has more credibility to explore the depth of the case. The caveat is that the researcher might have difficulty taking the role of an external disinterested researcher. Nonetheless, Guba & Lincoln (1981) say that participatory approaches are transactional and that researchers and participants are interactively linked, with the values of the investigator and others inevitably influencing the inquiry. Viewed in these terms, my previous involvement in this case was an advantage. My relationship to the investigated case did not affect my objectivity because I was mindful of the extent of my influence in the research context. Ultimately, my own reflective analysis of past events

was valuable in scrutinising the experiences of the actors involved, the processes, and the outcomes of the Landcare Program.

4.2.3. Selection of Case Study Sites

The first case study site was the Municipality of Claveria, Misamis Oriental, where the Landcare Program first developed. The scaling up sites were the Municipalities of Lantapan, Malitbog, and Manolo Fortich, which are all in the province of Bukidnon in the northern Mindanao region, in the southern Philippines (Figure 4.2).

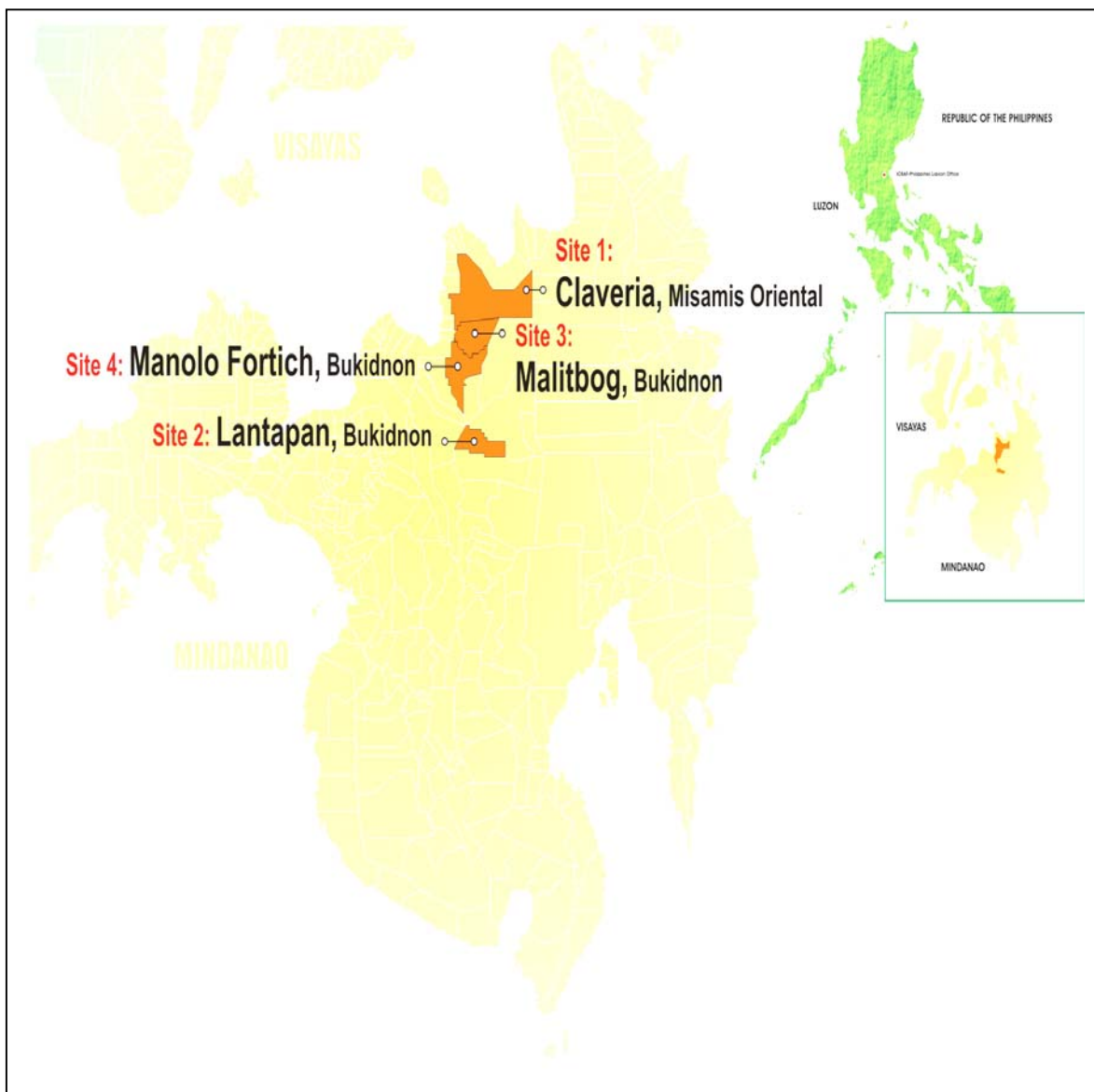


Figure 4.2 Case study sites in northern Mindanao

The three scaling up sites were chosen because each one represents a certain mode of scaling up (Figure 4.3). The varying levels of institutional and technical support from ICRAF, the level of local government support, the entry points and strategies used and the nature of activities involved characterised the modes of scaling up. Detailed descriptions of each mode are reported in the subsequent chapters.

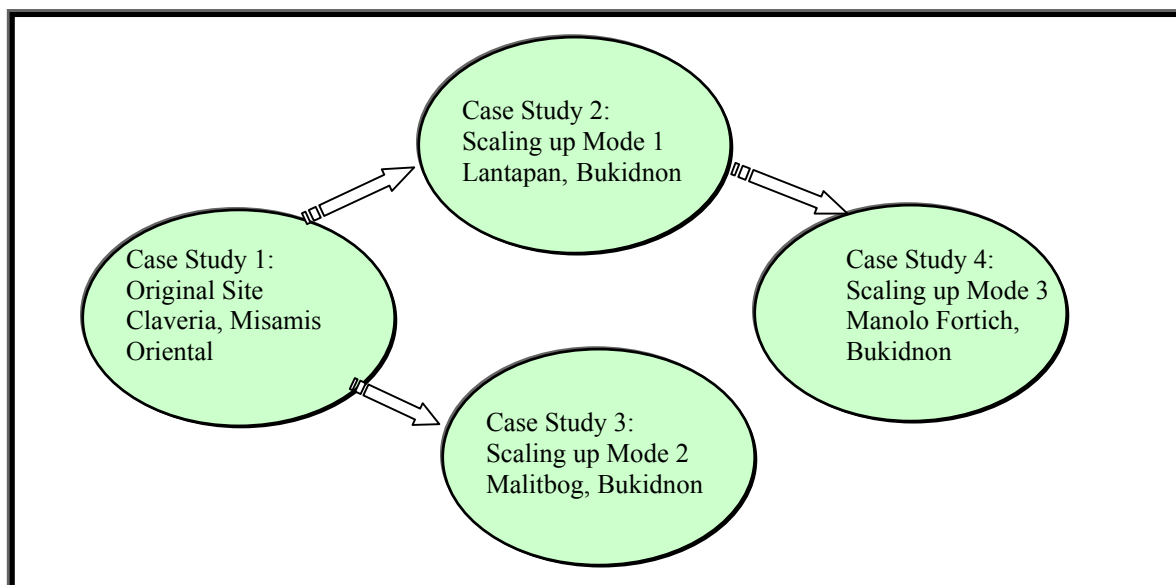


Figure 4.3 Case study sites and modes of scaling up

4.2.4. Layers of Case Study Analysis

The study has three layers of analysis: (1) prelude case analysis; (2) multiple case analysis; and (3) cross-case analysis and analytical generalisation (Figure 4.4). Correspondingly, these layers of analysis sought to address the three specific objectives of this study.

a. Prelude Case Analysis

A case study of the original Landcare site (Claveria) was implemented to address the first objective of this study. It asked the question, “How did the Landcare Program work in the original site?” The themes of analysis were (1) the evolution of the landcare approach, (2) activities and outcomes, (3) actors’ perspectives, (4) resources used, and (5) enhancing and limiting factors for success. The inquiry was guided by a case study protocol carried out using semi-structured and key informant interviews, focus group discussions (FGDs), document review, and analysis of quantitative data. A detailed case study report is presented in Chapter 5.

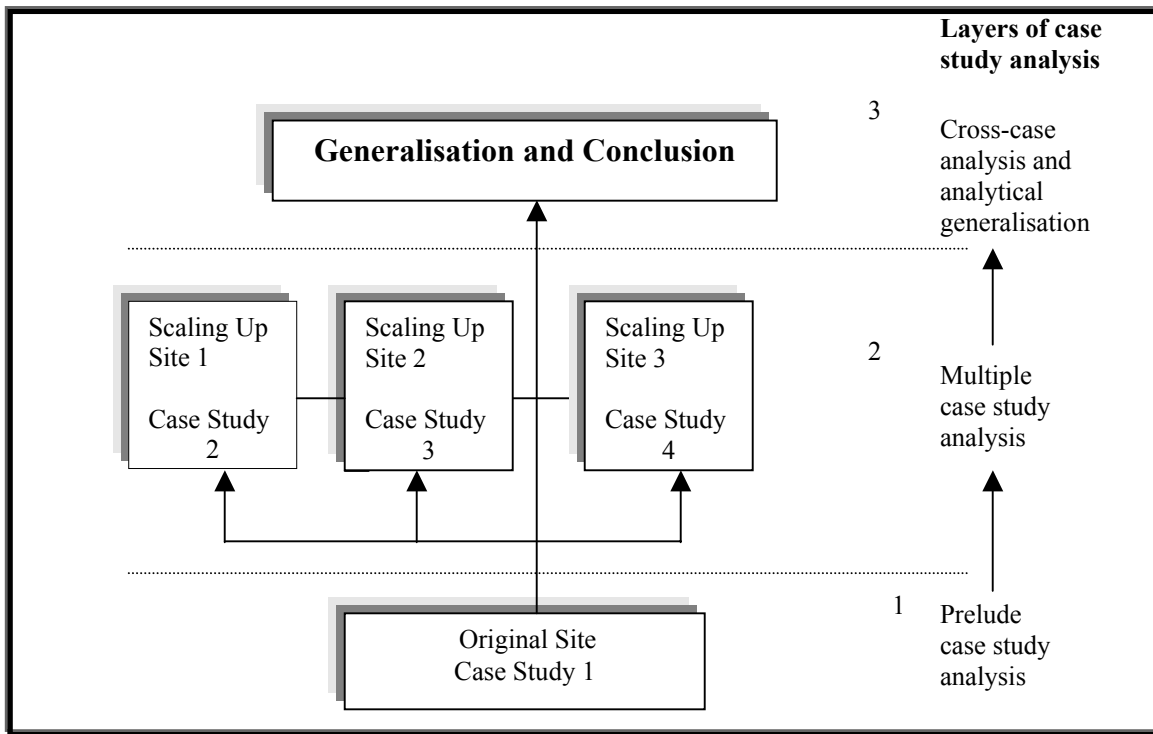


Figure 4.4 Layers of case study analysis (Adapted from Patton 1990)

b. Multiple Case Analysis

The second objective of this study was addressed through descriptive and explanatory case studies of three scaling up sites. The inquiry was based on two key questions: (1) How did the implementation of the Landcare Program in scaling up sites compare with the original site? (2) What conditions enhanced or limited scaling up efforts in the study sites? The themes of analysis in each case were (1) the mode of scaling up and implementation strategies, (2) issues and problems encountered, (3) scaled up activities and outcomes, (4) actors' perspectives, (5) resources used, and (6) enhancing and limiting factors for success. The case study reports are presented in Chapters 6, 7 and 8.

c. Cross-Case Analysis and Analytical Generalisation

The third objective of the study was addressed through cross-case analysis and analytical generalisation. The prelude case and multiple case studies were analysed using the same themes as when they were analysed individually. The cross-case analysis was both explanatory and exploratory, revealing the patterns, similarities, and differences between the cases. In addition, key informants from NGOs and project partners were interviewed to

elicit a broader perspective of scaling up the Landcare Program. Their perspectives helped in addressing two research questions: (1) What are the key factors in planning a scaling up intervention? (2) What are the potential modes of scaling up, and the conditions that would enable the rapid scaling up of the Landcare Program beyond northern Mindanao? The themes of analysis were (1) the preconditions for effective scaling up, (2) the interplay of key factors in planning for scaling up, (3) the potential modes of scaling up, (4) the challenges in scaling up and potential direction, and (5) the enabling environment for scaling up. Detailed reports of the cross-case analysis and generalisation are presented in Chapter 9 and 10. In practical terms, the three specific objectives of this study as outlined in Chapter 1 were the main context of the case study (Table 4.2).

Table 4.2 Objectives and context of the case study

Objectives and context of the case study			
	1 Understanding why the Landcare Program was successful in the original site	2 Determining how the Landcare Program was scaled up to other sites	3 Investigating how the Landcare Program could be enabled to work on a much broader scale
Case study questions	1. How did the Landcare Program work in the original site? <ul style="list-style-type: none"> • What resources were used? • What were the outcomes? • What were the conditions that made it work? 	2. How did the implementation of the Landcare Program in scaling up sites compare with the original sites? 3. What conditions enhanced or limited scaling up efforts in the study sites? <ul style="list-style-type: none"> • What were the bases for scaling up? • What were the modes of scaling up? • What resources were used? • How did these affect the outcomes? • What factors enhanced or constrained implementation? 	4. What are they key factors in planning a scaling up intervention? 5. What are the potential modes of scaling up, and the conditions that would enable the rapid scaling up of the Landcare Program on a much broader scale? <ul style="list-style-type: none"> • How does the key factors interact in the scaling up process? • What are the potential modes of scaling up? • Can ICRAF scale up Landcare beyond northern Mindanao? • What are the elements of an enabling environment that promote scaling up?

4.2.5. General Methods of Data Collection

a. Data Collection Techniques

The concentrated, skill-intensive nature of a case study enables the use of both objective methods of measurement and detailed probing of attitudes and backgrounds (Casley & Lury 1987). However, I took the caution of Casley & Lury (1987) that the flexibility of the approach puts a heavy burden on the researcher to choose methods carefully and to remain focused on gathering only the information that is instructive for the particular issue. As mentioned earlier, and as suggested by Yin (1994a) and May (2001), I used five sources of evidence for this study. Four experienced field assistants helped in the interviews and in conducting the FGDs, as well as in collecting and collating relevant information from the ICRAF database and local government profiles. Specifically, the following data collection techniques were used.

Participant Observation. As mentioned earlier, my previous involvement with the Landcare Program has given me the opportunity to play a participant observer role, both retrospectively and during the formal fieldwork. I participated in the life of the community and became an insider without losing my objectivity making field visits more informative and gaining key insights into local perceptions, motives, beliefs, values and attitudes. During the fieldwork, the interviews and FGDs with farmers and LGU informants appeared to be the normal activity of ICRAF in conducting its research. My previous role as a participant observer was thus extended in the course of the research fieldwork. However, there was room to consider a bias in the responses of the case study participants out of respect for ICRAF.

Focus Group Discussion (FGD). Twenty-two FGDs with farmers were conducted for this study (Appendix 4.1). I designed and facilitated all the FGDs with the help of four experienced field assistants (Appendix 4.2). On average, the FGDs consisted of 12 participants. Landcare facilitators identified the focus groups on the basis of some simple criteria, while the participants were mostly identified by farmer leaders, and sometimes by facilitators and technicians. Half the FGD participants were also selected for the individual interviews depending on the time they arrived at the designated location of the FGD. For

instance, the first six participants to arrive were automatically selected for the individual interviews. The purpose of this was to counter-check the consistency of interview responses with that of the FGD results. The use of focus questions, which were similar to the interview questions, guided the group discussion. This provided a fertile ground in the production of new ideas and important insights, which did not surface in individual interviews. In the case of Claveria and Lantapan, the focus groups were used as the basis of group case studies in an evaluation study of the Landcare Program.

Semi-Structured Interview. Individual interviews with farmers were conducted using open-ended questions to allow for clarification of and elaboration on the answers given (Appendix 4.3). According to Punch (1998), semi-structured interviewing allows the interviewee to answer more on their own terms than the standardised interview permits. For Claveria and Lantapan, half the farmer respondents were selected on the basis of their availability at the time of the scheduled fieldwork, while the others were selected from the FGD participants. In the case of Malitbog and Manolo Fortich, the majority of farmer respondents were randomly selected from a list of Landcare members in each barangay, in order to obtain as much information as possible, since I felt that my previous interactions with farmers in these sites was limited compared to the first two sites. The individual interviews were particularly useful for developing an in-depth understanding of local perspectives, attitudes, and behaviour patterns (Casley & Kumar 1989; May 2001).

Key Informant Interview. A similar set of interview questions were prepared for the key informant interviews with LGU officials and staff, Landcare facilitators, and the NGO-project partners (Appendix 4.4 to 4.7). Many of the questions were the same as they were applicable to all these respondent groups. The purpose of this was to elicit multiple perspectives of actors, and to triangulate the results of the same line of questions from different data sources. Similar to the farmer interviews, the questions were open-ended to allow for freer discussion and to enter into a kind of a dialogue with the interviewee.

Landcare facilitators identified key informants from the LGUs on the basis of their involvement with the Landcare Program. Seventeen Landcare facilitators and one key ICRAF staff member also served as key informants. In addition, 17 project staff,

comprising managers and field personnel from NGOs and project partners were also interviewed, including the following: (1) European Union (EU)-funded Upland Development Program (UDP); (2) Western Mindanao Community Initiatives Project (WMCIP); (3) Process-Bangon; (4) Community-Based Resource Management Project (CBRMP); and (5) Catholic Relief Services (CRS) (Appendix 4.8). These NGOs and project partners were not involved in the case study sites but had been exposed to, or had already adopted some aspects of the Landcare Program in their respective project sites. Five important five figures of the Australian Landcare Program were also interviewed, to obtain a clearer perspective of Landcare in the context of Australia.

Document Review. The ICRAF library was a rich source of information, including publications, brochures, reports, and three PhD theses (Arcenas 2002; Sabio 2002; Stark 2000). The ICRAF database on surveys conducted (e.g., technology adoption, training, etc.) provided the quantitative information for this study. According to Casley & Lury (1987), these data sources are useful to help inform the ultimate conclusions. Quantitative data were analysed, particularly regarding technology adoption and project costs. For instance, the extent of technology adoption and the land area on which conservation technologies had been implemented were analysed using the data obtained from the ICRAF database and LGU records. These documents provided rich information to establish the social, political, economic, cultural, and institutional realities of the Landcare Program.

b. Case Study Protocol

A case study protocol was prepared to guide the case study inquiry in the field, which contained the research questions (Table 4.3). According to Sechrest et al. (1997), this is important to ensure a systematic collation and interpretation of data to support the probative intention of the case study. A case study protocol also increases the reliability of the case study.

Table 4.3 Case study protocol

Case Study Questions	Protocol Questions
How did the Landcare Program work in the original site?	<ul style="list-style-type: none"> • How did the Landcare Program develop? • Who were the key actors and what resources were used? • What were the activities and outcomes? • What were the perspectives, expectations, and motivations of the actors involved? • What factors promoted success? What were the constraints?
How did the implementation of the Landcare Program in scaling up sites compare with the original site?	<ul style="list-style-type: none"> • How was the Landcare Program scaled up to other sites? • Who was involved and what resources were used? • What were the bases for scaling up? • What dimensions were taken into consideration for scaling up? (technological acceptance? institutional mandate?) • What were the perspectives, expectations, and motivation of the actors involved? • What activities were scaled up? What were the outcomes? • What were the problems and challenges encountered?
What conditions enhanced or limited scaling up efforts in the study sites?	<ul style="list-style-type: none"> • What factors promoted or constrained success in the study sites?
What are the key factors in planning a scaling up intervention?	<ul style="list-style-type: none"> • What factors will likely affect scaling up? • What is the interplay of these factors in the design of a scaling up process?
What are the potential modes of scaling up, and the conditions that would enable the rapid scaling up of the Landcare Program beyond northern Mindanao?	<ul style="list-style-type: none"> • How can local-level conditions that are favourable for Landcare be replicated in other sites? • What are the potential modes of scaling up? • What resources are needed to scale up at a much broader scale? • What support can the national government provide? • How can the actors get involved? Will there be new actors involved in this process?

4.2.6. Validity and Reliability

To increase the validity of this case study, I took the advise of Yin (1994b) to use multiple sources of evidence and establish the chain of evidence by asking identical or similar questions across four major groups of case study participants (data triangulation). For example, some questions were repeatedly asked across the respondent groups. I also used two methods to collect data from the same category of participants. For instance, the same questions were asked in individual interviews and FGDs with farmers. Project documents helped validated the converging information taken from the four sources of evidence. Hence, both data and methodological triangulation were used to develop the converging lines of inquiry (Table 4.4 in Section 4.3.6.a) as recommended by Patton (1990) and Yin (1994a; 1994b). According to these authors, the potential problems of construct validity are minimised with the use of the triangulation method, because the multiple sources of

evidence essentially provide multiple measures of the same phenomenon. I constantly validated the data generated from different sources with my own reflective analysis of the case. For instance, the underlying factor of the discontinuity of the Landcare Program in one site was better understood by reflecting (retrospectively) on past events and circumstances that influenced the actions and interactions of the actors involved.

4.2.7. Strategy for Data Analysis

a. Analysing Embedded Units and Explanation Building

The overall case was about the scaling up process of the Landcare Program in northern Mindanao, with embedded units of analysis from four study sites. According to Yin (1994a), in such a design, the analysis of the embedded cases should be conducted first. This was followed by cross-case analysis with explanation building as the main analytical strategy. Since the study had no prior theoretical proposition, explanation building was mainly based on the embedded units or themes of analysis. As mentioned earlier, the same units or themes of analysis were used as when the cases were analysed individually to easily establish the chain of evidence of the case. The patterns and explanations for each case were compared to analyse the whole case, and were interpreted and treated as one through description and explanation building at a single case level.

b. Content Analysis

Content analysis was used to analyse and interpret the interview and FGD results. Content analysis is the process of identifying, coding, and categorising primary patterns in the data (Patton 1990). In analysing the content of interviews and FGDs, similar responses were identified and clustered into similar ideas (for Patton, these are called themes or categories). For both interviews and FGDs, the clustered ideas or themes were tabulated and frequency count was used to identify how many times the idea was mentioned by each respondent group or by the interviewees. In the case of farmer interviews, the themes were compared with the FGD themes, and further content analysis was made to arrive at the final themes. Interview results of the LGU and Landcare facilitators were also subjected to the same process of content analysis.

c. *Data and Methodological Triangulation*

The data from different respondent groups (farmers, LGU officials and staff, facilitators and project staff) were triangulated to identify common ideas or themes at the individual case-level. However, group responses were also highlighted to bring out their perspectives and to elaborate on similarities and differences. Further, the interview and FGD results were triangulated with the results of the document review. As earlier mentioned, the documents provided more of the quantitative data and the three PhD theses in particular provided the empirical evidence for some aspects of the study. Hence, both data and methodological triangulation was employed as analytical approaches to ensure the validity of the study (Table 4.4). Ultimately, my own reflective analysis augmented much of other methods.

Table 4.4 Data and methodological Triangulation

Data Triangulation (Data Sources)			Methodological Triangulation (Methods of Data Collection)		
Farmers	LGU officials and staff	Landcare facilitators	Interview	Focus Group Discussion (FGD)	Document review and analysis of quantitative data

d. *Generalisation of Case Study Results*

According to Punch (1998), case study results can be generalised through analytical generalisation, equivalent to statistical generalisation in quantitative studies. There are two ways to analytically generalise a case. The first is by conceptualising and the second is by developing theoretical propositions. By conceptualising, the researcher takes a conscious effort to identify new concepts to explain some aspects of the case study. On the other hand, to develop propositions to link some key findings, ideas, or factors within the case and assess them for their applicability and transferability to other situations (Punch 1998).

Following this guideline, I consciously took account of the patterns of explanation in each case to address some important aspects of the larger case study, namely, (1) to conceptualise an analytical framework for designing a scaling up intervention, (2) to propose alternative modes for scaling up Landcare, and (3) to identify the enabling environment for scaling up.

4.3. Data Management

One principle of data collection is to create a case study database. A good database increases the reliability of the case study. The data collected for this study were both in hard and soft files. The hard files contained my field notes, the interview questionnaires, the FGD results, the LGU profiles, and other documents. The soft files contained the encoded data in Microsoft word and Excel format, of which many were annotated. It also contained a picture library. Each study site had a data folder (Appendix 4.9 to 4.12), organised in a data directory (Appendix 4.13).

4.4. Data Quality

I received help from four experienced field attendants in conducting interviews and FGDs, but to a large extent, I personally conducted the data collection activities of this research. The field attendants were employed by ICRAF in conjunction with an evaluation study of the Landcare Program. Two of them were formerly Landcare facilitators. There was more flexibility in some details of data generation, but the general approach was consistent. I also had good access to LGU records and the ICRAF database.

The first fieldwork was conducted from July 2002 to March 2003. During this time, data gaps and issues were identified and new themes emerged from the initial analysis. Hence, a second fieldwork from November 2003 to March 2004 was conducted to validate the initial results, and to expand the literature review to cover the newly emerging themes (e.g. influence of local political dynamics).

The validity measure of the case study was the use of triangulation methods and my reflective analysis of the case. Yin (1994a) says that one way of pursuing high quality case study is for the researcher to bring his/her own expert knowledge on the subject of study. He adds that a strong preference is for the researcher to have analysed similar issues in the past. My participation in international workshops in scaling up and awareness of the current thinking and debate in this topic has thus heightened the validity and quality of this study.