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Toward a Fluid Definition of Development Projects:

An Ethnographic Study of Meanings Ascribed by Multiple Stakeholders to a Rural Water Supply and Sanitation Project, Southern Highlands, Papua New Guinea

A thesis submitted in partial fulfilment of the requirements for the Degree of Master of Social Science at Lincoln University by Sisa Kini

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Abstract of a thesis submitted in partial fulfilment of the requirements for the Degree of Master of Social Science

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by

Sisa Kini

At a basic level water is essentially important for life. Its meanings, though, are socially constructed by the multiple ways in which people interact with water in specific contexts. This research looks at the meanings of water in the context of an aid funded water and sanitation project in a rural community in Papua New Guinea. The study examines the meanings ascribed by three main stakeholder groups involved in the project. These include the donor, implementing agency and the beneficiary community. This is a stark divergence from the logical linear deductions made about changes emanating from rural development projects. It used a qualitative approach, including an ethnographic process of data collection, to investigate these meanings. Interviews (semi-structured and unstructured), focus group discussions, participant observations, unobtrusive methods and participatory (interactive) methods were the primary data collection methods employed. Data collected were inductively sorted and coded to identify key themes and meanings. The study found that in this context that there were multiple and fluid meanings ascribed to the project by the three groups. The meanings ascribed by each group were found to be influenced by the group’s physical distance, level of interaction (usage and access) and the organisational or institutional objectives of each group. These meanings have implications for the behaviours, actions and perceptions of stakeholders that, in turn, affected the implementation of the project. Through more interactive processes of project implementation, the fragmentation of meanings can be minimized to produce more coordinated and meaningful outcomes from development projects.

**Keywords:** Rural development projects, Papua New Guinea, water and sanitation projects, meanings, ethnographic study, multiple stakeholder engagement, developing countries, water.
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They say the writer of a piece of work is often not satisfied with what they put out. My first experience of writing a thesis leaves me feeling this way, but at the same time, I realise that every story needs to come to an end. As the people of Daga would say, kia dibuke, papa God bai blessim yupela.
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<td>Direct Budgetary Support</td>
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<tr>
<td>ESDF</td>
<td>Environment, Society and Design Faculty</td>
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<tr>
<td>EU</td>
<td>European Union</td>
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<tr>
<td>LLG</td>
<td>Local Level Government</td>
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Chapter 1
Introduction

1.1 Overview of the study

Aid funding has become a major part of developing countries’ strategies to help address basic needs such as nutrition, education, health, sanitation, water supply, housing and related infrastructure (Feeny, 2003). Through the use of various development initiatives and strategies, donors try to assist countries to achieve their development goals through funding mechanisms delivered over local, regional or provincial, and national levels within these countries. The literature on the effectiveness and efficiency of aid produces mixed findings at micro- and macro- levels within a country. Some studies indicate it has worked whilst others indicate it has not; yet, others have pointed out that it can work if certain conditions prevail (Feeny, 2003; McGillivray et al., 2006) These debates continue to shape and influence aid provision strategies.

In twelve years of working in rural development in my home country, Papua New Guinea (PNG), I have dealt with a variety of stakeholder groups - local communities, foreign and local donors, government, and private sector organisations - in planning and implementing development strategies in rural areas. During my time in the Southern Highlands Province I began to appreciate both the complexity and the variety of different perspectives that surrounded development initiatives and projects. As an outsider, the stories told by the communities particularly intrigued me. They reflected that the projects served many purposes, including some that were unintended, and that these changed as the project progressed. The meanings of these projects were dynamic and influenced by many factors. Like the stories told about the project, the meaning altered or multiplied along with changes that were occurring in the community.

This research was an exploratory case study of a development project in a rural community in the Southern Highlands Province of Papua New Guinea. The focus was on exploring, describing and interpreting the context within which the actors gave meaning(s) to a particular water and sanitation project. The study is predominately a qualitative inquiry using an ethnographic approach. Interviews (semi-structured and unstructured), focus group discussions, participant observations, unobtrusive methods and participatory (interactive)
methods were the primary data collection methods employed. Data collected were inductively sorted and coded to identify key themes and meanings.

1.2 Issues and justifications for this study

Previous studies have shown what is working, what is not, and what needs to be in place in order for outcomes of sustainability, empowerment and poverty alleviation to be achieved through aid funded projects in developing countries. There is a wide range of development frameworks, models, approaches and principles that have been produced as a result of such research. These studies continue to challenge, influence and shape many ways of thinking about development. This study aims to contribute to this discussion.

It provides a narrative around the insights and understanding of three different stakeholder groups\(^1\) that represent those typically involved in implementing development projects in rural areas of PNG. This study will have implications for development workers and researchers interested in sustainable rural development project planning and implementation and how current development practices can be further enhanced by understanding how rural societies interpret and influence the outcomes and sustainability of development projects. It is envisaged that this research knowledge will add to the literature, dialogue and development practices aimed at improving rural areas in developing countries like PNG, and make a contribution to the social scientific literature on “meaning making” more generally.

1.3 Research aim, objectives and questions

The aim of this research is to gain an in-depth insight into, and understanding of, meanings ascribed by stakeholders to an aid funded rural water project. The research focuses on the meanings of the water project generated by stakeholder’s interactions with each other in the course of implementing the project. Furthermore, it explores how these meanings influence stakeholder interactions and participation. Two main objectives guided this research. These were to:

(1) Describe and explore the context within which the three stakeholder groups interact and participate in the case study project;
(2) Develop an understanding of the meanings that stakeholder groups ascribe to the aid project.

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\(^1\) This study recognises that these stakeholder groups can also be referred to as organisations or institutions. In this case they are called stakeholder groups to emphasise the stake they hold in implementing this project.
The main question posed is:

*What does this aid funded water project mean to the three main stakeholder groups?*

Answering the main question required an examination of these groups behaviour so as to gain an understanding of the meanings that they attach to their actions, attitudes, behaviour, and the context within which they described this project being implemented. Thus, for purposes of discussion, this main question is further broken down into four specific subsidiary questions. These are:

1. What are the meanings ascribed by the Donor Agency?
2. What are the meanings ascribed by the Implementing Agency?
3. What are the meanings ascribed by the Beneficiary community?
4. How do these meanings compare and contrast?

### 1.4 Thesis structure

This thesis is presented in six chapters. Chapter 2 provides the theoretical background relating to development theory and the paradigm shifts within these theories that have influenced the nature and practice of rural development projects globally. It also contains a review of literature on rural development projects, and, more specifically, on water projects that provided the justification for the study.

A profile of PNG and the local community I have studied, Daga, is presented in Chapter 3 to provide the contextual background to the study. A summary of the donor and the implementing agency involved in this project is also presented in this chapter.

Chapter 4 covers the methodology and includes an exposition on qualitative research, theoretical lenses, and approaches, the case study strategy, and protocol used. It focuses largely on describing the field work methods employed for data collection and analysis. It also presents challenges and issues faced in the field. Cultural and ethical considerations in the study are also highlighted in this chapter.

The results of this study are presented in Chapter 5. The chapter is divided into three main sections presenting the ethnographic work carried out with each stakeholder group and focusing on each stakeholder group’s perspective of the project.
Chapter 6 contains a discussion based on the main research question and the four subsidiary questions which guided this research. It presents the diversity of meanings identified amongst the stakeholder groups and draws insights and understandings into how these influence stakeholder interactions, perceptions and participation (implementation and management) in the project.

The thesis is concluded in Chapter 7. There I restate the research questions and summarises how this study has answered these questions. Study conclusions, implications and recommendations are then presented. The chapter concludes by highlighting the study limitations and making suggestions for further research in this area.

1.5 Research interests and self confessions

Having presented a general overview of the study, it is also imperative that researchers ‘place’ themselves within their ethnographic research. This is referred to in qualitative approaches as the act of reflexivity and is linked to the notion of theoretical sensitivity (Glaser, 1978).

As the main instrument of data collection and analysis I recognised throughout the research that I bring certain values and insights from my experiences in studying and working on development as a woman (mother, sister, aunt and daughter) and as a Papua New Guinean, which could influence the manner in which data is collected and interpreted. It is therefore important that I explicitly state who I am as the researcher, to clarify the ways in which I could influence the research process and how I managed these. Furthermore, as the people of Daga ask whenever someone speaks: “Yu husait long toktok long hia?”; (Who are you to talk here?) This is who I am.

I am a Papua New Guinea female born after the country gained Independence in 1975. My parents were brought up in traditional villages and were at the time working and living in Port Moresby, the capital of the country and the most urbanised and modern part of it. They are originally from different cultures and provinces: my mother is from the Gulf and my father from Central Province. This made my upbringing very different from theirs. I was brought up in a multi-cultural urban home in a country in its formative years as a nation, with recently introduced Western systems of governance, institutions and way of life. My parents, however, were brought up in a rural-traditional lifestyle. Having little experience of our traditional lifestyle I became more interested in my cultural heritage and my country in general when I
went abroad to Australia to attend senior high school. It was during those three years of boarding school that I began to be an ambassador for my country, as I tried to represent it to the best of my knowledge. My sense of patriotism was often limited by not knowing enough about my homeland and its diversity of cultures, people and issues. A deep sense of longing to know more and to help contribute to its development began to grow in those early years.

I returned to Papua New Guinea to attend the PNG University of Technology where I attained a Degree in Communication for Development. As I was among the first in-takes of the course, and were therefore, guinea pigs, my interest in PNG’s development became more real as I explored the many challenges that the country faces through my studies. As part of the course work, every year we were attached to mining companies, Government departments, or non-profit organisations to gain work experience. My first attachment was with the Kutubu oil project operator Chevron Niugini Community Affairs Department and this became my work placement for four years of field experience. I saw firsthand the impact of a large scale resource development on the rural communities in the area, and was saddened by how this did not seem to bring positive change. Over the years I began to recognise that the challenge of making positive change started with a clear articulation amongst stakeholders on what positive change was. There seemed to be a variety of positive changes that stakeholder groups focused on, depending on their organisation or individual roles and perspectives. Generally, though, it was recognised that giving money to landowners was significantly changing the community. In my final year at university, I was attached to work with the WWF in their Kikori Integrated Conservation and Development Project. This offered me another set of experiences in terms of how non-profit organisations worked and, in particular, the conservation factors that came into play in development.

When I graduated from university the petroleum companies were working on a strategy to set up an independent foundation that would take over the development aspects of the companies’ Community Affairs Department. I was asked to join this team as a Planning Officer and in 2004 became the Executive Director of the foundation. I experienced highs and lows whilst doing development work in rural areas of PNG, but could never give up. Sitting in various advisory committees to donors and boards of non-profit agencies in the country addressing a wide range of sectors, I was overwhelmed that the discussions held on development were not really addressing the rural areas where the majority of Papua New Guineans live. I wanted to

---

2 WWF is an internationally renowned conservation NGO that has a project in the Petroleum impacted areas of PNG.
contribute to changes happening in my country and to see what I could learn from our people in rural areas to make this happen. Through this thesis I continue to pursue this goal.
Chapter 2
Theoretical frameworks and studies on rural development projects: A review

2.1 Introduction

This Chapter reviews selected literature pertaining to the theoretical and conceptual frameworks, and studies relating to rural development projects. It is divided into three main sections. Section 2.2 presents an historical overview of development theory, its influence on rural development, development project planning and implementation, and sustainability. An overview of project aid funding and multiple stakeholder participation is also covered. Two conceptual frameworks, namely, the Sustainable Livelihood Framework and Organisational Culture Framework that have served to guide the collection of data are then discussed in section 2.3. A review of studies of water projects is discussed in Section 2.4. It points out gaps within the literature, specifically within the context of Papua New Guinea. The Chapter is concluded in Section 2.5.

2.2 Overview of development rhetoric and practice

This section provides a review of past and present development practices relevant to this study. It reveals diversity in practice that is a reflection of the broad and varied concept of development. Authors and organisations differ in their definitions of development (Shepherd, 1998; Izadi, 2000); this is because the paradigms guiding thinking have shifted over time. As Chambers (1995) explains, there has been a shift in focus, from “things” in the 1950s and 1960s towards “people” in the 1980s and 1990s. Yet there is a distinction between paradigm shifts in development versus those in physical science; as Chambers (1995, p.32) explains:

*Paradigm is used here to mean a pattern of ideas, values, methods and behaviours which fit together and are mutually reinforcing. In the physical sciences, one new paradigm tends to replace an old one. In development thinking, paradigms tend to coexist, overlap, coalesce and separate.*

Thus in practice it is difficult to indicate when one way of thinking about development ends and when another begins. Accordingly, the practices described in the following sections do not conform strictly to one way of thinking; nor can they be used to reveal a clear-cut paradigm shift in theoretical approaches to development. Nevertheless, a review of the main
trends in development theory and practice is required in order to set this study in its relevant theoretical context.

### 2.2.1 Rural development

Conventionally, rural development has been part of the modernisation paradigm, by which half a century of development has been influenced (Shepherd, 1998). Shepherd (1998) presents that modernisation basically equates development with four basic processes. These include capital investment which leads to productivity increase; the application of science to production and services; the emergence of nation states; and large scale political and economic organisation and urbanisation (Shepherd, 1998). In the post-World War II period (1950s to 1970s), the dominant concept of development was economic growth (Izadi, 2000). The focus then shifted to capital and technology intensive strategies to promote growth (Chambers, 1995; UNDP, 1999; Izadi, 2000).

Within the rural development context specifically, Shepherd (1998) describes the modernisation paradigm as being mechanical and inflexible, based on the assumption that if nations become rich, then the economic benefits would reach rural areas where most of the poor people in a nation live. Shepherd (1998) refers to two major developments in particular: the imposition of structural adjustment programmes (SAPs), and trade liberalisation. What follows is a brief overview of how SAPs and trade liberalisation have influenced and brought to the fore many of the issues and aspects that more recent development approaches, particularly in rural development, aim to address.

**Structural Adjustment Programmes (SAPs)**

The aim of SAPs was to reduce economic instability by recreating the conditions for growth (Shepherd, 1998). A main weakness of this approach is that “much of the rural poor is not touched by a SAP as it lies outside the officially recognised and measured economy” (Shepherd, 1998, p.7). The goal of a SAP was narrowly concerned with promotion of private sector firms as an alternative to the over developed State. This argument is more appropriate to the western developed countries, because in countries like Papua New Guinea with small private sectors (where monopoly exists) a SAP does not really create a competitive environment for improved services. Instead privatisation of development initiatives or services becomes more expensive through strategies such as a SAP. Nevertheless, SAPs brought to the fore ideas of inclusive and participatory procedures for policy making and project planning, and focused on grassroots actions (Izadi, 2000).
**Trade liberalisation**

The development of the trade liberalisation approach emerged at the time of democratisation movements of the late 1980s and early 1990s in Africa, Latin America and Eastern Europe (Izadi, 2000). Although this too has many associated challenges (see Shepherd, 1998), it contributed to the expansion and growth of ideas on participation and empowerment. In particular, it gave rise to the organisation of Non Profit or Non Government Organisations (NGOs), advocating and facilitating for fair trade especially between “northern consumers and poor southern producers” (Shepherd, 1998).

These shifts in thinking have begun to create increased considerations of gender, environment and cultural dimensions in various rural development initiatives. Although economic issues are not being ignored, issues such as participation, human rights, and gender are now seen as equally important in recent approaches to development.

### 2.2.2 Development projects

Typically, there are two types of development projects. The first type is referred to as the blueprint approach, which emerged during the 1960s and 1970s. The Asian Development Bank (1993, p.1) defines such projects as “ones where project designs, plans, resources, costs and implementation schedules are specific prior to implementation and where project plans will remain valid over the project period”. Projects moved from initially focusing on supporting economic growth through infrastructure development, to projects that aimed to meet basic human needs (Franks et al., 2004).

The second type of development project is the process-oriented approach. In the last two decades projects have become more process-oriented, with a focus on institutional building and human development. This recent approach taken in planning and implementing development projects is referred to in the literature as “process projects” (Franks et al. 2004, Lynch, 1997).

Practice shows that both types of approach exist in combination within projects implemented today. The difference is in the procedures that are adapted to plan and implement the investment of resources (Frank et al., 2004). In process-oriented projects there is a noted increase in coordination between and within donor agencies, government departments, and non government organisations; this resulted from the growing disillusionment that projects are not effective or efficient approaches to addressing development (see Frank et al. 2004).
This has resulted in larger scale procedures of planning and implementing projects, such as the Sector Wide Approaches (SWA) and the Direct Budgetary Support (DBS). These procedures are discussed further in Section 2.2.4.

Further to the observations made by Franks et al. (2004), it is evident that there is a difference not only in the procedures and approaches taken, but also in the way stakeholders interact and understand the project. The tendency in assessments of rural development is to focus on impacts and outcomes using stringent indicators of development, rather than gaining an understanding of how these projects are perceived by members of the community. This provides the impetus for this study, as discussed in section 1.2 of Chapter one.

Questions of impact and measurement of key indicators of development are important in assisting investors to measure the benefit of their inputs, but these continue to apply thinking a linear thinking to complex situations. As Baumgartner and Hogger (2004, p.25) pointed out eloquently:

> To start with the obvious, development projects are understood as rational responses to identified development deficiencies or – less often – development potentials. Project planning usually subscribes to a linear cause-and-effect logic. The actual intention, however takes place within a complex institutional framework of norms, values, rules and regulations.

The literature reveals a growing awareness for development projects to be sensitive to the context in which they are implemented in order to ensure there is sustainability and ownership of projects amongst those for whom it is intended.

### 2.2.3 Sustainable rural development

Though the idea of sustainable development is fiercely debated, the most commonly quoted definition of sustainability is that found in the report “Our Common Future” by the World Commission on Environment and Development (WCED, 1987, p. 43 also referred to as the Brundtland report) which states:

> Sustainable development is development that meets the needs of the present without compromising the ability of the future generation to meet their own needs. It contains within it two key concepts: The concept of ‘needs’, in particular the essential needs of the world’s poor, to which overriding priority should be given; and the idea of limitations imposed by the state of technology and social organisation on the environments ability to meet present and future needs.
In applying this concept, Scoones (1998) and others (e.g. Chambers and Conway, 1992) have combined rural development, poverty reduction and environmental management into the concept of “sustainable rural livelihoods”. Similar to the notion of “sustainability”, there are also many definitions of “livelihoods”. The most quoted are the definitions given by Chambers and Conway (1992) and Scoones (1998), who draw on early definitions found in the Brundtland report (WCED, 1987) on sustainable livelihoods:

A livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stress and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base (Scoones, 1998, p.5)

The sustainable livelihoods approach within development has emerged in the 1990s as a way to address poverty reduction (Cahn, 2002; Izadi, 2000; Liu, 2007). Cahn (2002, p.1) states that “it is a way of thinking that can be used as a tool for planning interventions, reviewing and evaluating projects, research, policy analysis and development”. Franks et al. (2004) outline the basic aim of the sustainable livelihoods approach as understanding of people’s lives through assets and entitlements that they hold in the wider context of institutions, regulations and cultural norms. The basic principles of the approach are outlined in the Handbook on Sustainable Livelihood approach (Carney, 2002): it is people centred, responsive and participatory, multi-level, conducted in partnership, sustainable, and dynamic (see also Carney, 2002). The use of the framework evolved from the conceptual and methodological issues in investigating rural livelihood issues. This has prompted a number of variations which share the basic assumption whilst differing in the detail (Gumoi, 2009). Despite these differences the five main components provided a useful tool to understanding the rural community context in which this water and sanitation project was implemented. The use of this framework in this study is discussed in the following section.

The Sustainable Livelihoods Framework shown in figure 2.1 has been used in this research. The key question proposed by Scoones (1998, p.3) that this framework seeks to investigate is:

Given a particular context (of policy setting, politics, history, agro ecology and socio-economic conditions) what combination of livelihood resources (different types of capital) result in the ability to follow what combination of livelihood strategies (agriculture intensification/ extensification, livelihood diversification and migration) with what outcomes? Of particular interest in this framework are the institutional processes, (embedded in a matrix of
formal and informal institutions and organisations) which mediate the ability to carry out such strategies and achieve (or not) such outcomes.

Figure 2.1 Sustainable Livelihoods Framework
(Source: Scoones, 1998, p.1)

The framework provided a checklist of issues to explore, prompting the of key connections and linkages between the various elements; although it offers no predictive power, it encourages the right sort of questions to be used to gain a holistic understanding of a particular case study (Scoones, 1998).

There are five main components of this framework: assets, institutions, livelihood outcomes, vulnerabilities, and strategies. A brief overview of these components follows.
Livelihood resources or assets are the cornerstone to the understanding of options available to the poor, the strategies they adopt to attain livelihoods, the outcomes they aspire to, and the vulnerability context under which they operate (Ellis, 2000). Assets are basically categorized into natural, social, human, physical and financial (for an explanation of various forms of assets see Frankenberger, 2002; Carney, 1999). An analysis of assets is in relation to what people have and do not have rather than what they need. The analysis of assets is about how access to assets has changed over time, what changes are predicted, what the causes of changes are and how access and control differs between social groups (Carney, 1999).

Institutions (including processes and organisational structures) are essentially organisations and processes, laws, policies, societal norms, and incentives. Structures and processes are important because they influence the access, control and use of resources. They also provide the link between the micro (individual, household, and community) and the macro (regional and national) levels (Ellis, 2000). Scoones (1998) points out that an understanding of the structures and processes helps identify areas where restrictions, barriers, or constraints occur and explain social processes that may have a bearing on livelihood sustainability.

Livelihood outcomes include increased income levels, improved well-being, reduced vulnerability, improved livelihood and food security, and more sustainable use of the natural resource base (Frankenberger, 2002). According to DFID (1999), understanding livelihood outcomes is necessary to alleviate poverty. People’s livelihoods and their access to and control of resources (related to issues of resource ownership and property rights, including land tenure) can be affected by events largely beyond their control. This is the concept of vulnerability. Vulnerability (context, conditions and trends) can be framed in two contexts: the external environment in which people exist; and how people adapt to, and cope with, stresses and shocks (DFID, 1999; Chambers and Conway, 1992; Cahn, 2002).

Livelihood strategies are diverse activities that generate the means of household survival (Ellis, 2000). People choose livelihood strategies that will provide them with the best outcomes depending on the assets they have the structures and process that impact on them, culture and tradition, and the vulnerability context under which they operate (Cahn, 2002, 2006). Livelihood strategies change as the environment (over which people have very little control) changes. Often people pursue unsustainable and unproductive livelihood strategies because of either tradition, the lack of a resource base, or as a coping strategy in difficult situations (see also Scoones, 1998; Ellis, 2000; Carney, 1998 for a discussion of types of
livelihood strategies). Understanding the diverse and dynamic livelihood strategies is important so that interventions are appropriate (Ireland, 2004).

2.2.4 Multiple-agency aid funded development projects

Much of the focus of implementing aid funded development projects has been on rural areas in developing countries which are primarily perceived as ‘poor’. The view is that by alleviating poverty in these areas, sustainable development can be achieved as this would lead to a decrease in disparities (UNDP, 1999). The impact of foreign aid on growth in developing countries is a most contested subject. McGillivray et al (2006) are of the view that it is an important topic given its implications for poverty reduction and empowerment.

As mentioned in Section 2.2.2, the two main procedures for implementing aid funding projects are the Sector Wide Approach (SWA) and the Direct Budgetary Support (DBS) (Franks et al., 2004). SWA basically involves a combination of policy advice, and programme and project investment across a sector (such as the health sector in this case study) supported by a basket funding from a group of donors. This is to avoid lack of coordination and ownership, allowing the beneficiary government to set their own priorities for the sector and negotiate support for them with the donors as a unit, rather than as individual departments or levels of Government. DBS has similar goals but allows for much more flexible financial arrangements to beneficiary Governments. It involves the larger scale transfer of funds from donors directly to the Treasury. The funds then become part of the government budget in principle, enabling governments to use these with internally generated resources. This puts the recipient government in control and allows for lower transaction costs (Ryan and Toner, 2003).

Typically, the implementation of aid funded development projects in rural areas entails bilateral and multi-lateral agreements and program designs at the national level, whilst the delivery of the project in rural communities is carried out through implementation agencies such as NGOs. Despite the awareness that project implementation entails multiple stakeholders, the focus of studies have either looked specifically at the national (macro) or at the community level (micro). There is a paucity of research directed towards understanding the relationships between different stakeholders that come together to partner, plan and implement the project. This is an important part of the rationale for my own study.
Work by Lewis et al. (2003) provides some guidance as to how such research might be conducted in this direction. They emphasize that, although the culture of individual organisations has received increasing attention, the creation of shared culture across organisations has been ignored. It is important that we achieve a better understanding as Lewis et al (2003) argue, by understanding the culture of different stakeholder groups involved in a development project, a better understanding of why projects veer away from the stated objectives can also be drawn. They put forward the Organisational Culture Framework from ethnographic case studies carried out in three countries (Bangladesh, Peru and Burkina Faso) and their review of anthropological work on culture and organisational theory. This is summarised in table 2.1.

### Table 2.1 Organisational culture and development: elements of a framework

<table>
<thead>
<tr>
<th>Key concern</th>
<th>Examine</th>
<th>Looking for</th>
</tr>
</thead>
<tbody>
<tr>
<td>Divergence between text and practice</td>
<td>Project documents, evaluation reports, appraisals. Adherence to mission statements, formal rules, etc in everyday project practice.</td>
<td>Disjuncture, inconsistencies and commonalities.</td>
</tr>
<tr>
<td>A more extensive analysis of development practice</td>
<td>Working of projects and their participants. Emergence of new cultural hybrids on the interface – interlocutors, brokers etc.</td>
<td>Innovators, brokers, how projects tick and elements of bureaucratic practice.</td>
</tr>
<tr>
<td>How meaning is produced in practical settings?</td>
<td>How key actors think about what they are doing?</td>
<td>Contestation, production and reworking of meanings, claim making.</td>
</tr>
<tr>
<td>A richer sociological analysis of development organisations</td>
<td>Presence of and formation of sub-cultures, how do they emerge and why can they fragment</td>
<td>Powerful, integrative, disaffected and ignored subcultures. Do these challenge anything? How?</td>
</tr>
<tr>
<td>Interpreting the cultural style of the organisation to understand the evolution of its own organisational culture, its potential to deliver.</td>
<td>How organisations work – who controls, who listens, presence of key cultural attributes. Identify cultural styles e.g Handy’s categories and Schein’s levels</td>
<td>Evidence of club/ task/ person behaviours. Examine at level of artefacts, values, norms, behaviour, emotions and mindsets</td>
</tr>
<tr>
<td>Fragmentation and coalescence of meanings</td>
<td>All of the above before drawing conclusions?</td>
<td>Questions over project purpose, incomprehension, unsupervised activity, repeat of the same answers in questioning</td>
</tr>
<tr>
<td>Context of organization</td>
<td>Understand the social context in a given locale, and look for similarities in a development organisation active region i.e. embeddedness of social norms in the organisations, and its effects on outcomes, effectiveness, practices. Do local norms conflict with those of funding/ intermediary organisations for example</td>
<td>Similarities &amp; differences in agency and practice, revealing possible social and political inevitabilities (like hierarchies or bureaucracies developing)</td>
</tr>
<tr>
<td>Balance of power in multi-agency projects</td>
<td>Structure of organisations, evaluation of key stakeholders</td>
<td>Mapping power – who controls or dominate others? Good communication between key organisations.</td>
</tr>
</tbody>
</table>

(Adapted from Lewis et al. (2003, p. 553)

The framework proposes to help trace links between culture, knowledge and power; it offers insights into processes for knowledge formation, project conception and implementation that...
technocratic and managerial literature does not. Drawing from these case studies, Lewis et al. (2003) suggest a range of key concerns in the table above, with corresponding areas of examination and what research should focus on looking for to address these concerns.

2.2.5 Conceptual frameworks for research project

One of the main objectives of this research outlined in Chapter one, was to describe and explore the context within which these three stakeholder groups interact and participate in the case study project. Both the Sustainable Livelihoods Framework and the Organisational Cultural Framework discussed were useful conceptual frameworks for developing questions that helped to provide insights and understandings of the different contexts within which meanings were generated.

The five different components within the Sustainable Livelihoods Framework helped to draw understanding of the different livelihoods systems within Daga community where the water supply and sanitation project was situated, whilst the Organisational Cultural Framework was useful in guiding the institutional context in which actors were situated. Furthermore, the latter helped to provide insights into areas of fragmentation and production of meanings between the different stakeholder groups.

2.3 Review of studies of water and meanings

In addition to literature concerned with development and sustainability, there is a body of research specifically concerned with water. A review of literature indicates that water insecurity is one of the most significant contemporary issues facing the global population at the present time and is a major need that donors set out to address. Whether too much water, too little, contaminated, or restricted access is more pressing, insecurity around water is rife (Marra, 2008). More than one billion people, one sixth of the earth’s population, do not have adequate access to safe drinking water (UNDP, 1994). The 22 Development Assistance Committee (DAC) member of countries, which are referred to as “developed countries” contributed a total of US$ 5 billion in 2005 to 2006 as aid for water supply and sanitation (OECD and WWC, 2008).
2.3.1 Approaches to water projects

Initial efforts to address health and sanitation issues tend to be “supply driven” (Nicol, 2000, p. 7). Nicol (2000) explains that although this perspective still exists in many water projects around the world, research and evaluations examining the impact of projects have prompted a shift to more “demand driven” approaches. The supply driven approach he explains is, “based on the premise that more and better water can help to improve the health of individuals”, whilst demand driven takes the approach that “water as an ‘economic’ good” and that the “consumer pays” (Nicol, 2000, p. 7). Thus this shift basically entails a shift from consumers receiving water as a basic service to meet the need for water, to consumers paying for the sustainable supply of water. Thus, consumers pay for the amount they demand or use.

Since the early 1990’s there has been further change centring on the persuasive idea that water is an ‘economic’ as well as a ‘social’ good –with significant implications for health-centred approaches. This emphasis shifted from service supply to demand, and had major implications for communities and project financing. The link this new relationship creates with household livelihoods and the wider social and political policy environments is argued to be far stronger than previous supply oriented, health based approaches (Nicol, 2009, p. 9)

Donahue and Johnston (1998, p. 2) argue that, in the case of water scarcity, it is more than a “matter of decreased supply or increased demand”. Rather, it is influenced by a variety of factors including topography, climate, economic activities, population growth, cultural beliefs, perceptions and traditions, and power relations. They present the idea that an adequate understanding of scarcity must also include an understanding of the process by which scarcity (or the perception of scarcity) is created, what motivates people to act the way they do, to define resources and resource crises, and to devise responses.

2.3.2 Meaning of water

Strang (2005, p. 94) in her work on water across cultures highlights the agreement amongst many that “meaning can be seen as an active process of interaction” but that “common themes... recur in many cultural settings”. She attempts to show this in her work and writes that, “although meaning is a human product, the environment is not tabula rasa, but instead provides elements whose consistent characteristics are the basis for meanings that flow cross-culturally, creating common undercurrents in culturally specific engagements and interpretations” (Strang 2005, p. 97). The diversity of uses and forms of water is one of the reasons why it has a diversity of meaning. Strang (2005, p. 97) then shows that “the ways in
which humans experience these fluid qualities are as diverse as the contexts in which this interaction [between people and water] occurs”. In her (Strang 2005, p. 115) review of relevant ethnographic studies, Strang identifies four major recurrent themes of meaning in relation to water. These are water as: (1) a matter of life and death; (2) a potent generative and regenerative force; (3) as the substance of social and spiritual identity; and (4) as a symbol of power and agency.

Strang’s work highlights the importance of water, while pointing to its myriad of meanings in different contexts. Thus water must be seen as more than just a mechanism for clearly defined problem as articulated by donors and implementing agencies. The interaction between stakeholders and the way in which the project is implemented contributes to a diverse and fluid definition of what the project means to the different stakeholders. This is the focus of my research.
3.1 Introduction

This Chapter provides the background to this study. It situates the research within the national, regional and local context of Papua New Guinea. It also provides the necessary background on the community, the water project, and the stakeholders. It has been compiled by using a review of secondary sources and, in some instances, personal and direct observations and informal conversations.

Section 3.2 gives an overview of Papua New Guinea (PNG), a description of rural livelihoods in the country, and the condition of health and water supply in general. An overview of the donor and the implementing agency, their organisational and programme goals are presented in Section 3.3. This is necessary given their relevance and importance to the case study project. The location and setting of the beneficiary community is described in detail in Section 3.4.

3.2 National Context

A number of reports have been used to collate the background information on PNG, its rural context, and general water and health conditions. This provides the national context within which the project, the stakeholders and the community is situated.

3.2.1 Overview of Papua New Guinea

Located on the western rim of the Pacific Ocean between Australia and Asia, PNG is the largest and most populous of the Pacific islands. It consists of the eastern half of the island of New Guinea and 600 smaller islands. The largest of these islands are Manus, New Ireland, North Solomon (Bougainville) and New Britain. The region within the Pacific in which it lies is referred to as Melanesia. The other Pacific countries that belong to this group are the Solomon Islands, Vanuatu and Fiji. Figure 3.1 illustrates the location of the country.
History

The island of New Guinea was the one of the first landmasses after Africa and Eurasia thought to be populated by modern humans. Little was known in the western world about the island until the nineteenth century, although traders from Southeast Asia had been visiting New Guinea as long as 5,000 years. Much of the indigenous history of the area and its people is not written, but maintained instead in oral form. As Waiko (1993, p.2) has written, “oral tradition in many parts of our country can carry us back into the past more than 100 years ago, but not 50,000 years”. Papua New Guineans have begun writing about PNG history from the perspective of the local people, but a large portion of this still remains oral; pre-European history of the country as a whole is therefore dependent on archaeological work. During colonial administration the country was called Papua and New Guinea, reflecting the complex historical administration of the country. Papua New Guinea has been ruled by three external powers since 1884:- Britain and Germany, who divided the country into south-east (Papua)
and north-east (New Guinea) respectively; and Australia, who took over full administration in 1919. Independence was gained from Australia in 1975. PNG remains a Commonwealth nation with a Governor General who represents Queen Elizabeth II (SOPAC, 2007; Sullivan et al., 2008; Regis, 2000; Waiko, 1993).

Levels of political administration

The country is divided into four regions within which the 20 provincial administrations are located: Southern Coastal (Papuan), Northern Coastal (Momase), Highlands, and the New Guinea Islands regions. The provincial administrations are broken down into district level administrations; these are than divided into local level administrations called the Local Level Governments (LLG). Each LLG comprises of several wards which encapsulate one or more villages depending on their populations.

Governance

PNG has a Westminster system of Government comprising the executive, legislative, and the judiciary. Executive power is vested in National Executive Council which is headed by the Prime Minister, who is the leader of the majority party in the single chamber national parliament. The executive government is supported by a bureaucracy that delivers government services to the public.

Demography and language

The last full-scale national census was conducted in 2000 and recorded a total population of 5.2 million. At an annual growth rate of 2.7 %, the current total population is estimated to be around 5.8 million. In 2000, the ratio of males to females was 1:2 and the population density was 11 people per square kilometre. In terms of regional population distribution, the Highlands recorded the highest at 38%, followed by Momase at 28%, Southern at 20%, and the Islands at 14%. Further analysis shows that 95% of the population is Melanesian, 3% are Polynesian, and 2% are Micronesian, Asians, Caucasians or Africans. The diversity of the ethnicity of the people is found in the 850 indigenous languages and at least as many distinct tribal and traditional societies. Each group has its own tribal structure, architecture, customs, songs, music, dance, art and traditional beliefs. The official languages are English, Pidgin and Motu. English is the official language of Government, business and secondary education. Tok-Pisin (Pidgin) is commonly spoken on the New Guinea side, while Motu is spoken on the Papuan side of the country. Tok-Pisin is gradually establishing itself as a truly national and dynamic language (NSO, 2003; Sullivan et al., 2008).
Climate; Geography and Natural Vulnerabilities

As generally stated in Wikipedia half the country receives a general high rainfall of approximately 2500 mm annually, PNG can be described in general as wet & tropical. High daily mean temperatures are experienced in the lowlands with little annual variation. Mean maximum readings of 28 to 34 degrees Celsius and mean minimum readings of 20 to 25 degrees Celsius are usual. In the highland areas, mean maximum daily temperatures range from 20 to 29 and minimum temperatures are in the range of 10 to 18 degrees Celsius (Sullivan et al., 2008).

The total landmass of PNG is 465,000 square kilometres, which contains a remarkable range of equatorial eco-systems. Furthermore, Wikipedia describes the country’s geography as diverse and extremely rugged. The Highlands region formed by a spine of mountains runs the length of the main-land of PNG and is the most populous and mostly covered in tropical rainforests. In contrast in the lowland and coastal areas dense rainforests can be found, and very large wetland areas are found on the western end of the country surrounding the Sepik and the Fly Rivers.

Due to diverse geography PNG accommodates five percent of the world’s biodiversity in less than one percent of the world’s land area (Regis, 2000). This has also made it difficult for the country to develop transportation infrastructure; in some parts of the country, airplanes are the only mode of transport.

Wikipedia describes the country’s natural vulnerabilities as a result of sitting on the Pacific Ring of Fire at the point of collision of several tectonic plates, resulting in volcanic eruptions and earthquakes, occasionally accompanied by tsunamis. In addition, with one of the wettest climates in the world, floods occur annually with magnitudes differing from one year to another. Even with its wet climate, the topography of the country is such that there are areas which experience distinct dry seasons, and droughts can develop.

Economic situation

PNG’s economic performance is described as extremely poor, despite being rich in natural resources. The reasons for economic stagnation are complex (see Sullivan et al. (2008) for discussion). In 2006, the United Nations Committee for Development Policy called for PNG’s designation of developing country to be downgraded to least developed country because of the protracted economic and social stagnation. However, this was disputed in an
evaluation by the International Monetary Fund in late 2008. The main sources of income are mining, petroleum and agriculture. The mining and petroleum industries account for 72% of export earnings; growth in non-mining sectors is more sluggish than in the mining sector. Agriculture continues to provide a subsistence livelihood for most of the population, and is also a major export sector. The country also has a notable coffee industry (Goldman, 2008; SOPAC, 2007; Sullivan et al., 2008).

Other development indicators

Literacy rates indicate a general increase over the last 30 years (since Independence), from 32% to 56%. However, only half of all women and two thirds of all men aged 15 years and above have ever attended school, and enrolment rates vary significantly from province to province. Life expectancy has risen from 49 to 53 years, and PNG’s human development index has risen from 0.43 to 0.54. However, in recent years, progress has slowed.

3.2.2 Rural livelihoods in Papua New Guinea

Papua New Guinea is largely a rural country, with 85% of the population living in rural areas. The rural population live in traditional societies made up of clans and villages. The PNG Constitution explicitly acknowledges (in preamble 5(4)) these traditional societies as an integral part of PNG that need to be maintained. Every Papua New Guinean, regardless of where they live, has a link to a rural traditional village, clan or tribe. With only 3% of the country’s roads paved, access to rural communities is difficult, slow and expensive. Thus, there are very few government services available in these areas.

Customary land tenure

The biggest issue with natural resource development and conservation in PNG is land ownership. 97% of the land in the country is controlled by landholders under traditional systems of tenure. Land ownership rests with clans or sub-clans; never individuals. This is also viewed as the reason why the country remains largely rural. Knowledge of land rights and boundaries has been passed orally from generation to generation. There is no system of registration or documentation to provide legal proof of ownership. Past attempts by colonial administrators and more recently by a World Bank/IMF sponsored “Land Mobilisation Program” to register titles over traditional land to facilitate development have been met with fierce resistance and have essentially failed. Only 3% of the land has been alienated, most of
it held under government leases and the rest in freehold titles granted in the early part of the twentieth century.

Any external intervention, Government, private sector, aid donor or NGO initiated, will not succeed in being implemented without consent and support from impacted landowners. Disputes over land are common and traditionally often lead to inter- and intra-clan warfare. The Land Dispute Settlement Act of 1987 tried to bring some coherence to the mediation process. Covering disagreements over boundaries, customary ownership, usufructuary rights and other claims, the Act establishes a legal framework for amicable mediation that extends from local land courts to appeals at the regional and national levels. But the Act cannot guarantee certainty of title by a decision at any level. Since decisions occur only within the context of customary rights, they are subject to later disputation should circumstances change among contesting parties. It is difficult for land owners do not have the right to mortgage their property under customary law and banks generally are not willing to issue loans using customary land tenure for collateral (Regis, 2000; Sullivan et al., 2008).

Agriculture

The high rainfall in the country is the main source of water for agriculture. Rural dwellers depend entirely on shifting subsistence cultivation, fishing and hunting. The traditionally cultivated food crops include sweet potato (kaukau), taro, yam, cassava, banana, breadfruit, sugarcane, and aibika. In addition, a wide variety of vegetables including pumpkins, corn, carrots, capsicums, beans and tomatoes are cultivated for domestic consumption and sale in local markets. Cash tree crops are grown in large plantations and in nucleus estates. Such crops include coffee, copra, cocoa, tea, rubber and oil palm. Most the commercial livestock farming is done on large cattle farms, piggery and poultry operations. There are also a small number of goat and sheep farms. Crop and livestock production is dependent on the altitude, rainfall, topography, soil fertility and moisture content of a locality. In rural areas, women also do most of the garden work (Sullivan et al. 2008).

3.2.3 Water and health situation in Papua New Guinea

Many of the health conditions in PNG are correlated to the availability and quality of water. The health status of the country is one of the lowest in the Pacific region, which indicates a decline in the 1990s (SOPAC, 2007; PNG Harbours Board, 2008). Statistics in the 1996 National Health Plan reveal that diarrhoea is the principal cause of morbidity and mortality in
the country at the rate of 1610 deaths per 100,000 of the population. Furthermore, 2.9% of all
deaths are caused by typhoid. Contaminated drinking water, lack of proper sanitation services,
and poor personal hygiene contribute to the high incidence of water and food borne diseases.

Generally, the country has a substantial amount of freshwater resources including springs,
creeks, rivers, wetlands and ground water. The main uses are domestic consumption,
hydropower generation, and a wide range of industrial uses. The quantity and quality of
available water is coming under increasing threat from the pressure induced by rapid
population growth, as well as runoff and industrial discharges entering surface and
groundwater bodies. The National Integrated Water Resource Manager Diagnostic Report
(SOPAC, 2007) and the The Rural Water Livelihoods Index (Sullivan et al, 2008) indicate
there is an urgent requirement for improved water supply and safe sanitation services
throughout the country. Many NGOs are actively involved in providing these services, but are
not fully supported by the relevant Government departments.

Sullivan et al (2008) state two of the main reasons for the above situation are the lack of
coordination in the water and sanitation sector and inadequate funding by the Government.
While existing regulatory controls are in place to minimise these impacts, Sullivan et al. argue
that better monitoring and compliance arrangements are required to regulate these activities.
In order to overcome the constraints imposed by limited regulatory funding from the
Government, monitoring networks involving partnerships between the private sector, NGOs,
and local landowners should be seriously pursued. Table 3.1 below presents a summary of
the role of each of the Government departments required by law to carry out water resource
management, water supply, and sanitation services.

In rural areas the main source of potable water are catchment rainwater tanks, shallow hand-
dug wells, springs, creeks and rivers. Only 20% of the rural population have access to
improved water supply systems; the rest consume rainwater contained in tanks or water
obtained directly from the source. Three modes of human waste disposal are used in rural
areas: septic toilets, pit toilets and direct defecation into the environment. More than 4 million
people in the country (78% of the total population), do not have access to safe sanitation
services. In many communities in PNG, women are responsible for ensuring there is sufficient
water and firewood in the house. This usually involves carrying large water containers from
nearby wells, creeks and rivers. Firewood is collected and carried in large bundles from nearby bush and forests.

**Table 3.1 Agencies responsible for Water Resource Management in PNG**

<table>
<thead>
<tr>
<th>Institutions/ Government Departments</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department of Environment and Conservation (DEC)</td>
<td>Responsible for managing conservation legislation that includes having to protect and sustainably manage the use of the nation’s water resources so that the quality and quantity of water resources is maintained at an acceptable level.</td>
</tr>
<tr>
<td>PNG Waterboard</td>
<td>Administers the National Water Supply and Sewerage Act 1986. They are responsible for the provision of water supply and sewerage disposal in urban centres throughout the country on a user pays policy.</td>
</tr>
<tr>
<td>Eda Ranu Limited</td>
<td>Provides water supply and sewerage systems to the National Capital District.</td>
</tr>
<tr>
<td>Department of Health (DoH)</td>
<td>Administrates the Public Health Act and is responsible for ensuring that all potable water supplies meet public health water quality standards. Along with Department of Works it also provides technical support for the construction of rural water supply and sanitation facilities.</td>
</tr>
<tr>
<td>Geological Services of PNG</td>
<td>Mostly responsible for carrying out seismic activities and groundwater investigations.</td>
</tr>
<tr>
<td>Department of National Planning and Monitoring (DNPM)</td>
<td>Makes sure that the Public Investment Programs for the water sector are funded through the Government, or allocates the Government’s aid counterpart funds.</td>
</tr>
<tr>
<td>National Water Supply and Sanitation Committee (WASCOM)</td>
<td>A consultative forum on matters relating to water supply and sanitation especially in the rural or District towns and Local Level Government areas.</td>
</tr>
</tbody>
</table>

*(Summarised from Sullivan et al., 2008)*
3.3 The Rural Water Supply and Sanitation Programme (RWSSP)

This research case study project, that is, the Daga Water Supply and Sanitation Project, is an aid funded project implemented in Daga community. It is funded under the Rural Water Supply and Sanitation Funding Programme (RWSSP) initiated by the European Union and the Government of Papua New Guinea.

This section provides background on the three organisations that were involved in my study and their aims and objectives. Figure 3.2 gives an overview of the linkages between these three main actors showing their respective responsibilities in this project and what they provide. Each group brings to the project their own set of objectives and outcomes that they want to achieve. There are other actors who also interact with these groups but this research primarily focuses on these three main actors.

**Figure 3.2 Linkages between the major actors in the water project**

3.3.1 Funding programme mechanism: overview

The RWSSP in Papua New Guinea is enabled by the Cotonou Partnership Agreement; PNG, along with other Asia, Caribbean and Pacific (ACP) countries, has signed up to this. The aim of this agreement was to strengthen partnerships with the European Union (EU) and allow it to assist in the development of these regions through its various development strategies and programmes. As stated in its Pacific Regional Strategy presentation (EU Website):

>The principle of strengthened partnership pervades the EU strategy in the Pacific which aims to broaden their political dialogue to provide more focussed development cooperation and to improve the effectiveness of aid delivery.

For PNG, the document specifically highlights the following:
PNG lies at the core of this strategy, being not only the largest country by far in the Pacific, but also the one with the greatest economical potential.

In its role as a regional leader and global partner, EU policy is to promote sustainable development and to contribute to civilian and strategic security. The EU uses a broad range of tools to achieve its goals. These include trade policies, cooperation under bilateral and multilateral agreement, development cooperation, humanitarian aid, and financial assistance. In PNG the EU has two mutually supportive components that its funding programmes come under, of which the RWSSP is one. These include (1) Rural Economic Development, which is focused on the rural areas, and (2) Human Resource Development. Other additional areas that complement this are: supporting strategies for Government departments; NGOs and the private sector; risk, assumptions and policy commitments to manage these; and cross cutting issues which include gender, governance and the environment. Governments signing these agreements also seek to achieve their own national goals as indicated by the Minister for National Planning in a press release reporting on the launching of the Rural Water Supply and Sanitation Funding Programme in PNG.

This project will help fight poverty and improve the living conditions of the rural population as laid down in the [PNG] MTDS[ Medium Term Development Strategy](Post Courier, March 4, 2009).

Drawing from this set of high level objectives and intentions; the RWSSP is one of the vehicles through which this EU-PNG Country Strategy is implemented. The programme is managed by a contracted company based in Australia. In this research the contracted company is referred to the Programme Management Unit. The Unit is staffed by people contracted to implement the programme.

The Programme Management Unit (PMU): Donor Agency

The programme began its phase one in PNG in 2006. In March 2009, the second phase was launched; it is planned to end in December 2011. The Phase Two programme budget is US$4.5 million (12million PNGK) for the two years. The general aim of the programme is to provide rural communities with access to water and improved sanitation through a grant programme. The stated programme goal is “Improved health of rural communities through provision of increased access to safe water and sanitation facilities”.
The program purpose is: “Sustainably enhanced access to water and improved sanitation for selected rural communities”.

There are five stated outcomes:

1. Sustainable rural water supply and sanitation schemes implemented by Non State Actors (NSA).
2. Capacity building of NSAs and rural communities is strengthened.
3. Establishment and management of an impact monitoring unit.
4. Establish a network to link water supply implementing agencies and beneficiaries.
5. Establish and operate a programme management system.

The key strategies articulated by the Programme Management Unit in their Technical Advisory note 1.1 (RWSSP Unit, 2009) are:

1) Funding through Non State Actors (NSAs): The Unit plans to focus on channelling funds through NSAs for the implementation of community based rural water supply and sanitation projects. NSAs basically include Non Government Organisations (NGOs) and churches that are not for profit, have clear legal identification, and have been in existence for more than two years. They cannot be individuals, families, clans or villages, profit making, political or government agencies. These groups submit proposals after a call for proposals is published in national media. Proposal submission requires filling out a template designed by the Unit. The technical report specifically outlines that if the template is not followed, the project will not be accepted.

2) Assessment of proposals for sustainability and ownership: The project proposals are assessed using the template through a demonstration of organisational capacity and experience in managing and implementing water and sanitation projects and other related rural based projects. The proposal must indicate that the project is driven by community demand and that the community has the capacity to contribute 10% of the cost of materials required for the project. These aspects of the proposal are incorporated to avoid the mistakes of past RWSSP. The “mistakes” referred to are previous projects not being sustainable and the lack of ownership of schemes put in place; this was caused by the top-down implementation approach of donors, governments and implementing agencies.

3) Capacity building of NSAs: The report also highlights that it intends to build the capacity of NSAs in order to increase the number of NSAs that can access programme funding.
over the period of the funding programme. This would also help to broaden the geographical coverage area. The areas of focus for capacity building outlined include organisational identity, status and governance, and administration and management capacity.

To date the programme has worked in 134 villages with a total population of 76,738 people. Projects include 2,207 improved toilets; 57 gravity fed systems, 455 rain catchment tanks, 3 hydro arm pumps, and 27 shallow wells and boreholes.

3.3.2 Project design and management: overview

The Daga community Water Supply and Sanitation Project proposal was submitted to the Programme Management Unit by the non-government, not for profit organisation CDI Foundation Trust Fund. The section below briefly introduces CDI Foundation, as taken from its 2008 Strategic Plan and my own knowledge of the organisation’s operations. This is followed by the project description as outlined in the proposal.

The implementing agency: CDI Foundation Trust Fund

CDI Foundation was established by the oil companies in 2001 to work with communities impacted by petroleum development projects in the Southern Highlands and Gulf provinces of PNG. It has three training centres in the project area corresponding to the three main petroleum project areas: Kikori in the Gulf Province, and Kutubu and Samberigi in the Southern Highlands Province. CDI has a head office in Port Moresby where the management team is based. Field staff work on rotational basis (6 weeks on and 3 weeks off) in the field training centres. The facilities are a major strategy for accessing rural communities and working with them. Unlike most NGOs in PNG, CDI’s strategic focus is not a specific sector; rather it focuses on a particular area because of the history of its establishment. Thus it follows that its mission statement is: “To work in partnership with Government and other stakeholders in rural communities of Gulf and Southern Highlands province to improve their livelihoods for sustainable development” (CDI, 2008).

CDI has three programmes to achieve its mission: Public Health, Training & Education, and Sustainable Livelihood. Within these programmes CDI takes both a service provision approach as well as a community capacity building approach. The service provision approach activities basically entail activities that are complementary to the provision of basic
government services, which particularly include the implementation of a distance education programme and immunisation services to mothers and children. Its capacity building community development activities include training programmes targeted at local level government, and community groups (such as women, youth and church groups). These activities mostly entail processes of letting these groups develop plans that CDI assists to implement.

In 2004, after CDI carried out a general community assessment of the different communities in the Kutubu villages where it was working, the Daga community was identified as one that CDI wanted to work with. This relationship has resulted in various development initiatives through CDI’s Public Health, Training & Education and Sustainable Livelihood programmes. The water project in this case study is seen as the outcome of this relationship and the ability of the community to be receptive to the initiatives that CDI has worked with them on. Many of CDI’s programmes that have been implemented in this community have not resulted in any material or tangible outcome, but were mostly focused on educating and training in agriculture (coffee, rice, duck farming, fish farming, etc.); public health (awareness and education on healthy living); education (distance education programmes for formal school leavers); and governance issues (such as good leadership and gender).

**The Daga community Water Supply and Sanitation Project proposal**

The project proposal was submitted to the PMU in 2006. It was planned for a period of five months at the cost of US$ 173,355 (455,000 PNG Kina (K)). Of this the amount requested from the RWSS Programme was US$ 149,733 (393,000 PNGK); the remaining cost of the project was planned to be covered by CDI and the beneficiary community. CDI proposed to spend US$ 12,954 (34,000 PNGK), which mainly covered the cost of project management. The community would contribute US$4 (10 PNGK) from each household, and labour and tools which were valued at US$ 7,200 (19,500 PNGK). The primary school that sits at the edge of the village also contributed US$ 370 (1000 PNGK), so that it too could be included in the proposal. The total population to benefit from this project was approximately four thousand people.
The overall stated objective was: “to improve health of the Daga Community and the children attending Tanuga Top-Up Community School through provision of water, sanitation and hygiene.”

The specific purpose was: “to provide a sustainable safe drinking water system, improved sanitation facilities and hygiene practices to the Daga Community and Tanuga Top-Up Community School.”

The expected results were “a functional and sustainable gravity fed water supply system is installed, 40 taps installed, training in sanitation and hygiene practices, four student toilets are built and training in management, repairs and maintenance of water supply.”

The main activities outlined included:

1. Feasibility study of the water supply project area and project design.
2. Purchase of the project materials.
3. Construction of the water supply and sanitation facility.
4. Training in management, repair and maintenance of the facility, and hygiene practices.

CDI’s role was to manage this project and ensure that the project objectives, results and activities were carried out.

3.4 The beneficiary community: Daga

This background on Daga community was developed using various secondary sources and drawing from my own knowledge of the area.

3.4.1 Demographics, location and governance

Daga community is made up of two rural Foi\(^3\) traditional tribal villages called Damayu and Fiwaga in the Southern Highlands Province. They are located in the Southern Highlands Province in the Nipa Kutubu District. There are five districts within the district and Damayu and Fiwaga come under the Lake Kutubu LLG area. Due to the large population in both villages, each village is an individual ward with their own councillor. Most wards are made up

\(^3\) Foi is a tribal group in the Kutubu area. The other tribe is the Fasu. Collectively they make up the two tribal groups that occupy the area around Lake Kutubu.
of two or more villages. Figure 3.2 highlights the eight districts that make up the Southern Highlands Province. It specifically indicates the Nipa Kutubu District areas. Figure 3.3 shows the location of Damayu and Fiwaga villages within the Lake Kutubu LLG area, but also in relation to the CDI facilities at the oil company Moro camp. Both areas are indicated with a star on the map. The latest National Census (2000) indicates that the total population of the Southern Highlands Province was 546,265 spread across 23,800 square kilometres. This makes the province the most populated in the country.
Figure 3.3  Map of the Southern Highlands Province indicating Nipa Kutubu District
(Sourced and adapted from Hanson et al. 2001, p.94)

Figure 3.4  Map showing location of Daga Community & CDI Facility/ Lake Kutubu LLG area
(Sourced from Oil Search Geology Department, Kutubu, PNG, 2010)
3.4.2 Physical and social setting

Much of the history of these two villages is not written and, like most traditional villages in PNG, this is maintained in oral history based on folklore and traditional mythology. The traditional village lifestyle is fast fading and transforming. This section focuses on presenting the social and physical setting of the Daga community.

3.4.2.1 Physical setting

Damayu and Fiwaga sit side by side two kilometres apart on ridge tops above Pimaga Station, the sub-district administration centre for the Lake Kutubu and Mubi Valley people. The Kutubu area is popularly known for hosting the only petroleum resource development project in the country, and also hosting part of the current PNG LNG Gas Project that is been developed by ExxonMobil.

The Daga community lies outside of the direct petroleum project impact area, but as shown in figure 3.3 it is only five hours drive from the Moro base camp. The community receives some benefit from the project in terms of social services and community projects provided by the company; this includes the services provided by CDI Foundation, and improved road infrastructure. The nearest airstrip used to be at Pimaga station, but this is no longer operational. The oil project airstrip at Moro is the closest. As pointed out by Goldman (2008, p. 75):

In the context of the present Kutubu oil project the Foi may seem somewhat marginal players since the oil is not from their land and they were granted 10% of oil royalties by Fasu only in recognition of their traditional ties. However, their position along the pipeline and the stature and economic success of some of their leaders gives them a prominent voice in the project arena.

Damayu and Fiwaga therefore play a pivotal role in representing the Foi and their rights in the petroleum development project due to its large population base. They also make up the large percentage of formally educated populace of the Kutubu area.

Infrastructure and facilities

The main features of the village are shown in figure 3.4. This map was initially constructed whilst in the village by four community groups that participated in separate village mapping exercises. Their village maps were amalgamated to develop the map in figure 3.4.
The villages of Damayu (Daga 1 on the map) and Fiwaga (Daga 2) are each identified by a central building called the Ahu-a. This is commonly known as the long house or the men’s house; translated literally it describes the length and size of the house and that it is mostly occupied by adult male members of these villages. This is a traditional Foi culture and will be expanded on in the description of the social setting (see below). The Ahu-a is surrounded by smaller houses called the Kanemo-as. A Kanemo-a is literally translated as women’s house; they are traditionally occupied by female members and children. Every man in the Ahu-a has a Kanemo-a to which they belong to. In Damayu there are 17 Kanemo-as, whilst in Fiwaga there are 20. Traditionally all members of the village lived in the Ahu-a or the Kanemo-a.

Christianity and modern influence has changed the type of housing pattern, so that villages have now constructed private homes with more modern materials where extended families live away from the main Ahu-a area. The Ahu-a area still exists, even though it is not occupied. A ward committee member described the different types of houses in the village in this way:

“There are different types of houses in the village, that we use for different things and they have different names. The Irise-a is the hunting house, constructed to last one day; [they would construct these when they go out hunting in the forest], then the Sog-a, is the house for the pig or for collecting firewood, or garden house. This should last a few months. Then the Kanemo-a and the Ahu-a, this should last 26 years. Now there are private homes that families live in, away from the village. Food is expensive, and you cannot share with everyone. Before, even though we shared, people were not hungry. Now, even though we don’t share, we are still hungry.”

Figure 3.5  Local men at the back end of the Ahu-a in Damayu Village, Kanemo-a’s along the side
(Picture taken by author, August, 2009)
Apart from the *Ahu-a*, the other main physical building of significance in the village is the church. The major Christian denomination that is found in both villages is the Evangelical Church of PNG (ECPNG). Early missionaries were from Australia and New Zealand. The church sits in the middle of both villages, setting the physical boundary between them.

The villages also share Daga elementary school to the east of Damayu (for pre-school age children), and Tanuga Primary School north of Fiwaga (for grades one to eight). There is also a Tok Pisin school located in Pimaga. These schools are mainly attended by children from Damayu and Fiwaga, but some children from other surrounding villages also attend. For higher level education, the children attend Kutubu High School, which is approximately 2 hours drive from the community along the highway; otherwise they enrol in the CDI Foundation Distance education program, which covers years 10 to 12 and matriculation university foundation year programmes. Those that can afford it tend to send their children to Port Moresby, where there are more educational facilities and opportunities. This often means finding relatives in the city that they can live with, and causes significant problems for parents if children are not well cared for.

There are no health facilities within the village, primarily because the Pimaga Rural Hospital is located nearby; however, this rural hospital is often short of medicines and health workers. It serves the wider Kutubu area and therefore does not necessarily give priority to the people from Daga. The local people still use traditional medicine and herbs to treat first-aid cases. The most common diseases found in the area are malaria, tuberculosis, typhoid and pneumonia. At the back of the *Kanemo-as* of both villages are women’s birth houses where the women deliver their children. Women are attended to by locally trained volunteer village birth attendants, and by their many female relatives. Other volunteer health workers include HIV/aids peer educators who are trained to provide counselling and support to members of the community who may have contracted HIV.

The current water supply project has brought a significant infrastructure feature into the villages. As shown in figure 3.5, the water source, a Southern Cross type water holding tank, sits up on the mountain behind the villages near the dam they constructed. Pipes run from the water source into the village to taps located around the village in public places and to private homes where individuals can access them. Four shower ablutions have also been constructed (two in each village for each gender group). In both villages, the women’s ablutions are located behind the *Kanemo-a*, whilst the men’s are located at the back end of the *Ahu-a*. 
Before this, the main source of water supply was *Wara Sura*, a river that runs below the village and up into the mountains, creeks found around the village, and water tanks. Tanks are found at the local church and in very few households.

Other facilities include two basic basketball courts with rings at the end of a cleared dirt area. One is located near the elementary school, whilst the other is near the youth centre. These are mostly used by young people who have sports groups; they occasionally compete with other villages, but mostly play within their own village. There were six open and functioning trade stores during the period I was resident in the village. Two are located in Damayu, whilst four are in Fiwaga. These facilities provide basic goods for sale. In Fiwaga there was also a tea house where one can get a cup of tea and fried flour balls; also a kerosene outlet. There were three trade store buildings that were closed. There were also two trade stores located at Pimaga station that were owned by local people from Daga, and a local market which opened on Tuesdays and Saturdays. At the market, local women could be found selling their garden produce and other store goods. Women also sold hand-made crafts such as *bilums* and *meri-blouses*.

There is a public telephone installed at Pimaga station, which people use phone cards. Mobile phone coverage is available in certain parts of Kutubu, but not in Daga. Battery operated radios are also common in the village; people sit around them to hear the news. Several local radio stations are received, including CDI FM, the local radio station operated by CDI Foundation.

Since there is no electricity supply, firewood is the main source of fuel for cooking. It is largely a women’s job to collect firewood; this often entails the construction of a temporary house in the forest to store collected firewood, followed by several days of walking to bring it all back to the village. Fortunately, the road allows those with vehicles to transport large amounts of firewood piled on the side of road to their households.

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4 Bilums are bags made from ropes of barks of trees. Local women weave these ropes to make a bilum. Meri-blouse is the national dress of PNG. It is a style of blouse that is worn by women in PNG.
Figure 3.6  Daga Community Map
(Drawn by Emele Namudu, Landscape Architecture Division, Lincoln University)
Environment and agriculture

As shown in figure 3.6 the village is surrounded by dense rainforest which serves multiple purposes like hunting, collecting food, and relaxation away from the village. Large areas of sago that the people depend on as their staple diet are found in swampy lower parts of the villages, particularly to the south. The sago is processed using traditional methods, mostly by women. A 10kg bag of sago can feed a household for a week. I noted that some men are starting to help their wives process sago. Species of fish that are not common or endemic to many other parts of PNG can be found in the rivers and waterways that surround the village. These are under threat following the introduction of Common Carp and other foreign species brought in through various agriculture programmes.

There is no large scale agriculture development, although, with agriculture training through the local government agriculture officers and CDI, there is some interest in coffee and vanilla farming. Most gardens produce and livestock raised is either consumed, sold at the local market, or reserved for major feasting activities. Households also pride themselves in looking after pigs, as these are mainly used for feasts. It was noticed though that these are being sold when cash is needed.

3.4.2.2 Social setting

Daga is the name that was created because of the close relations between the two villages of Damayu and Fiwaga: the “Da” stands for Damayu, whilst the “ga” is for Fiwaga. There appear to be three main institutional frameworks that feature in and influence the social setting of these two villages. These include the traditional cultural institutions, the church institutions, and the Government. They are discussed below in order of their integration into the village.

Traditional Cultural Institutions

Much anthropological work refers to the Ahu-a as the “hall mark of a Foe village” (e.g. Regis, 2000, p. 96). It is a centrally located long house. Figure 3.5 is an illustration of a typical Ahu-a. It still features as a significant institution in the village occupied by male members that represent different clans within the village. The Ahu-a in Fiwaga is known as the largest in the Kutubu area with 26 fire places; the Ahu-a in Damayu is the second largest with 22 fireplaces. By tradition, the women live with their children in small separate houses (Kanemo-a) that flank either side of the Ahu-a; one is shown in figure 3.5. Behind this house is usually a
confinement house for women who are either giving birth or menstruating. This house today is used as the delivery house.

Typically the Ahu-a is referred to in Tok Pisin as hausman, which means “men’s house” in English. The Kanemo-a is referred to as haus meri, which means “women’s house”. These translations are derived from the occupation of the house rather than an understanding of the symbolic meaning of the names. I was told that the word Ahu-a translated literally means “the mother of all houses”; whilst Kanemo-a means “cooking house”. These translations reflect the strong communal and inter-related nature of the culture of the Foi people. As described by Regis (2000), these houses are the social and ceremonial heart of the village and reflect how the community is organised. All important political and social events and decisions take place in the Ahu-a, whilst all the work occurs in the Kanemo-a. Although, the Ahu-a is only occupied by the men, their decisions are implemented by their Kanemo-a, as every man in the Ahu-a belongs to a Kanemo-a. Women are only allowed inside the Ahu-a on occasions such as mortuary and bride price feasts. I myself have been permitted into the Ahu-a on several occasions for feasts. During this research I was allowed to conduct interviews with the male groups in the Ahu-a and went right into the centre during the farewell sing-sing⁵ that the community hosted.

⁵ A singsing is an activity that involves singing and dancing that is carried out during feasts, funerals or other such events. Each tribal or linguistic group in PNG have their own singsing.
Every individual is part of a web of relationships determined directly by descent and kinship, or through affinal links when an outsider marries a local. Each member of the village is born into a clan that belongs to an Ahu-a. The dominant mode of descent is patrilineal, which confers membership to a clan (Regis, 2000). In Damayu there are four clans, whilst in Fiwaga there are five. Three clans, Egadobo, Waidobo and Yadobo, are found in both villages. Orodobo and Hagenamodobo clans are only found in Fiwaga, and the Kuidobo clan only in Damayu. These clan memberships to an Ahu-a reflect a story about their ancestors and how alliances were built within Ahu-as. Shifts continue to occur, changing the composition of the Ahu-as over time. As clans are the main institutions within which land and other resources or obligations are held, claims are made by invoking the relationships within the clan.

The traditional gender segregated communal household is no longer how people live daily. The private homes now have mixed gender composed of extended family members only. The interactions between community members and the sharing of basic resources such as food is less frequent. The new pattern of living allows people to have a lot more privacy but has
changed the amount of interaction and dependency of members of the community on each other.

**ECPNG church**

The ECPNG church is very influential in the daily lives of the people as it has become an integrated part of their society. The first missionaries came to the Kutubu area in 1951. The people still talk fondly about the first white missionaries who brought significant changes to the way of life of these traditional villages. The first of these missionaries was Dick Donaldson, an Australian, followed by fellow countryman Murray Rule and his wife. The last of the recognised foreign missionaries was Hector Hicks and his wife from New Zealand.

The Kabugi ECPNG church in Daga was established in late 1960s and belongs to both villages; this has further strengthened the relationship between them. The membership structure within the church is similar to that of the Ahu-a in that all members born in Daga are automatically members of the ECPNG church. This is slowly changing as people from other villages and societies marry into Daga. Despite this, it can be said that all households have an affiliation to the ECPNG church.

Leadership structures within the church, however, have a different set of selection criteria to those found in the Ahu-a. Nevertheless, they are still largely male dominated: deacons and church elders are mostly men, and their wives take on a supporting role. When entering the church building for service on Sunday, one notices that the membership is divided so that men sit on one side and women on the other. Church activities are carried out either in clan or gender groups. The church has brought many physical and philosophical changes to the village. Traditional dress, dancing and singsing had been perceived as non-Christian activities, as they were viewed as worshiping other gods. The church within Daga is part of a larger network of church associations which introduces the community to people from outside the villages. This includes people from overseas, other provinces (particularly Highlands provinces), and other districts and villages in the area.

**Government institutions**

Before Independence, the colonial administration, like the church, also had a great impact on the lifestyle of these traditional villages. As the administrators did not know much about the local people, and perceived them as uneducated, many of the administrative rules also affected local structures. Independence brought back acknowledgement of these traditional practices, but within a context that is fast changing. Today, Government representatives (ward
councillors) are locally elected members of their own community. This has in some ways devalued the status of Government in the eyes of the people, which is compounded by the lack of resources available to ward councillors to provide any real services within their community. Although the councillor position has little value in the daily lives of the village, it is hotly contested every five years because of the perception that the councillor position makes access possible to networks outside of the local community. The last elections were held in 2008 and I was told stories about the fights that went on during the campaign period within Daga community.

Ward councillors are given as much room as they can to promote laws and structures within their respective communities. Primarily, a ward committee is put in place to assist the councillor run the village. The membership of the ward committee for Damayu and Fiwaga villages was unclear, but it was noted that there were many sectoral groups that affiliated their existence to the ward structure. It was interesting to observe the relationship between the councillors and the traditional leadership structure in both villages. Traditional structures such as the headman representatives are incorporated within the LLG structure, along with other LLG sectors that include health, education, law and order, agriculture, women’s groups, and youth groups.

3.5 Chapter summary

This Chapter focused on providing the background necessary to place this case study within a national, regional and local context. It described the rural context in PNG in general and specifically detailed the demographics and social and physical setting of the beneficiary community of Daga. A general overview of the condition of health and water in the country was also presented in order to illustrate the context in which the country engages with foreign aid donors such as the European Union to implement funding programmes. Drawing from specific design documents, an overview on the RWSSP, the donor and the implementing agency, and the Daga Community water and sanitation project was also presented.
Chapter 4
Research methodology

4.1 Introduction

This Chapter describes the research methodology employed in this research. This entails discussion on the qualitative research approaches and methods.

The Chapter begins in Section 4.2 by outlining the application of a qualitative philosophy and approach to this research over quantitative and mixed methods. Further to this, the humanistic model is discussed in Section 4.3 to clarify the associated ontological and epistemological assumptions and methodology employed in this study. Section 4.4 entails discussion on the theoretical lenses focussing on how they influenced the research design. The main research methodology employed, ethnography, is expounded on in Section 4.5 outlining how it helped to gain insights into the research concerns. The procedures pertaining to the case study strategy applied to this research is made explicit in section 4.6 followed, in sections 4.7, by a discussion on the data collection methods. An overview of data analysis and interpretive methods are discussed in section 4.8. Section 4.9 highlights the research challenges and human ethical considerations. The Chapter is concluded in section 4.10.

4.2 Qualitative research

In its aim to explore and describe the different stakeholder perspectives my study begins with the view associated with qualitative inquiry that the world is “socially constructed, complex and ever-changing” (Glesne and Peshkin 1992, p. 6). This can be contrasted to the quantitative approach that is based on the assumption that the world is “made up of observable, measureable facts”. According to Creswell(2007, p. 37) “qualitative research begins with assumptions, a world view, the possibility of theoretical lens and the study of a research problem inquiring into the meaning individuals or groups that ascribe to a social or human problem”. Creswell (2007, p.37) further elaborates that “qualitative research today involves closer attention to the interpretive nature of inquiry and situating the study within the political, social and cultural context of the researchers, the participants and the readers of the study”. The qualitative approach also places emphasis on the participants’ viewpoints (i.e. the emic perspective). Veal (2006, p. 193) point out that “qualitative research is generally based on the belief that the people personally involved in a particular situation are best placed to
describe and explain their experiences or feelings in their own words and that they should be allowed to speak without the intermediary of the researcher and without being overly constrained by the framework imposed by the researcher”. As Taylor and Bodgan (1998, p. 9) argue, qualitative researchers emphasize the meaningfulness of the research and the belief that something is to be learned from all settings and groups.

As this research explores meaning making associated with a single development project in a rural community in Papua New Guinea, it is appropriate to use qualitative methods in order to produce ‘rich information’ about this single case (Veal 2006). This would not be possible by using a quantitative approach. My research required the collection of a variety of empirical data through case study observations, personal experiences and intensive interviews so as to form an in-depth understanding of the people and the context in which the study took place.

Qualitative methods depend on the ability of the researcher (Lincoln and Guba, 1985) and therefore several considerations needed to be taken into account before adopting the general qualitative research paradigm. As outlined by Creswell (2003, p. 37) “qualitative researchers use an emerging qualitative approach of inquiry, the collection of data is in a natural setting sensitive to people and places under study and the data analysis is inductive and establishes patterns or themes”. Drawing from Patton (1990), the following are basic characteristics generally connected with qualitative inquiry adopted for this study: naturalistic inquiry, inductive analysis, holistic perspective, qualitative data, personal contact and insight, unique case orientation, context sensitivity, empathetic neutrality and design flexibility.

4.2.1 Qualitative nature of research

This section highlights how this research reflected key characteristics of qualitative research in its design and implementation.

By adopting an inductive approach, the research builds from previous personal experiences and observations of rural development and the fieldwork that was conducted to study the stakeholder groups in their natural environment, of which I had no control over. This research focussed on investigating a single rural development project targeted in one community to gain an in-depth understanding of the meanings that different stakeholders had of the project. Physical and social settings of the donor, the implementing agency and the community were explored to draw a holistic understanding of meanings held by each stakeholder group and
their interactions in the course of implementing this project. The methods used generated words, images and experiences which were then analysed thematically.

My familiarity with the area, the culture, language, agencies and the people provided numerous insights into this research context and these guided my relationships and behaviour during the course of the research. My cultural background and personal experiences also offered advantages in terms of understanding behaviour and being aware of the social nuances associated with the three groups. This minimised difficulty with access into the sites and allowed me to be open about the intentions of the research.

My background helped sensitize me to the implications and consequences that my contact could have on the case study setting and its inhabitants. It was therefore important to examine different perspectives and experiences through literature and discussions to ensure that all perspectives emerging were taken into consideration, and to put aside my own preferences (i.e. value judgements, knowledge, experiences, perceptions and beliefs) in the course of inquiry.

The research design was developed before embarking on the research itself. But this was mainly as a guide knowing that with qualitative research, adaptations would have to be made during the course of fieldwork to account for changing circumstances and areas of focus. Thus the original questions were used more as a guide and interactions with the stakeholders determined the focus of the discussions with a particular group. Adaptations were also made to the methods of data gathering and methods modified to accommodate cultural settings.

4.3 Humanistic model

Having explained the qualitative nature of this research, this section elaborates on the specific philosophy of social research or paradigm within which this study was situated. This required clarification on the ontological assumptions (nature of society or reality) and epistemological assumptions (nature of knowledge which is also the relationship between the researcher and the researched) underpinning this research (Brewer, 2000).

The humanistic model of social research is often associated with a naturalistic approach to inquiry within the constructivist-interpretivist paradigm and the qualitative genre. The humanistic model is concerned with the social life in naturally occurring settings and where
society is seen as wholly or partially constructed and reconstructed on the basis of interpretive processes and where people are able to tell and or explain to others what they mean. Furthermore, that knowledge of this socially constructed world can only be understood through induction (i.e. the examination, observation, description and analysis of the meanings and experiences of the people who live in them). This is in stark contrast to positivistic quantitative approaches whose ontological basis is the assumption that there is a ‘real world’ out there independent of people’s perception of it; the social world is revealed to us, not constructed to us. The epistemology assumption in quantitative approaches is that knowledge is achieved through deduction (Brewer, 2000).

The ontological basis for this study were the descriptions of meanings, experiences and understanding of what this aid funded water project meant to each stakeholder group involved in the project. The study focussed on the social life in real, naturally occurring settings, independent of any manipulation. This formed the epistemological basis for the study. There was no hypothesis set and tested. Rather data were gathered and analysed in an inductive manner. Analysis focussed on participants’ responses to questions and their description of their context rather than on assumptions about their situations. Secondary sourced information was used only to compliment the primary data which fundamentally came from the community members and staff of the donor and implementing agency.

4.4 Research approach: Ethnography

This research encapsulated two main objectives. The first was to explore the different meanings that stakeholders attributed to this water project. This focussed the research on the ‘what’ questions. Further to this, the research also had to understand these meanings within a context, and not just utterances counted and understood in isolation of the environment in which they were said. This required describing the environment within which the project was implemented, the context that the stakeholder groups existed operated within and the relationships between these groups. This raised questions of why and how these meanings were generated and perpetuated. The ethnographic methodology was employed as the main means to gain the in-depth understanding that this study required in which data collection consists of documents, participant observation and interviewing (Creswell, 2007).

Brewer (2000, p. 10) defines ethnography as:

The study of people in naturally occurring settings or fields by means of methods which capture their social meanings and ordinary activities, involving the researcher participating directly in the setting,
My focus was on exploring, describing and interpreting the cultural or social groupings within a given context examining a “group’s observable and learned patterns of behaviour, customs and ways of life (Creswell, 2007, p. 58) and required me to live in the community immersing myself into the day to day lives of the people. Through intensive interviews, observations and participation in social life of these groups I was able to study the meanings of behaviour, language and interactions between these culture-sharing groups.

4.4.1 Case study procedure

Ethnographies often involve detailed knowledge of a particular setting or ‘case’ (Brewer, 2007). As indicated by Hammersley (1992), a ‘case’ can be defined as any phenomenon located in time and space about which data are collected and analysed. Hammersley (1992) further adds that they can comprise a single individual or a group, particular events or situations, a specific organisation, social institution, neighbourhood, national society or global process. Furthermore, as Patton (1990) points out, case studies are particularly useful in studying distinct people, situations or problems because they enable interaction between researchers and the researched, and enable both to make interpretations of phenomena.

Ethnographies share the same characteristics found in case studies. One main weakness often ascribed to case studies is that findings are not generalisable to the population because it is context specific and probability-based sampling techniques are not usually employed. In this sense the general rebuttal is that ethnographic case studies produce ‘rich’ and ‘deep’ data verses the ‘breadth’ offered by other methodologies (Hammersley 1992; Dey 1993; Brewer 2000). The case study procedure is therefore ideal in terms of allowing me to study meanings ascribed by stakeholder groups to the rural water development project they are involved in. The case study protocol, as encouraged by Yin (2003), is an important part of case study approaches. It provides a guide to the research by highlighting the different phases, their contents and procedures. The following sections examine the research questions, the levels and units of analysis, how the case study site was selected and the field procedures conducted.
4.4.2 Formulation of research questions

As an ethnographic case study, this research required an intensive fieldwork component, and required me to experience the data I was collecting and analysing. This is based on the epistemological foundation of fieldwork that only through direct observation or participation can one get close to apprehending those studied and the character of their social worlds and lives (Lofland et al 2006, p. 3). This also resulted in the need to be flexible to emerging issues and questions that arose out of the field. Thus the process of data gathering and analysis whilst in the field continued to shape the outcomes of this research.

4.4.3 Levels and units of analysis

This case study features one aid funded development project implemented in Daga Community, funded by the European Union (EU) PNG Rural Water Supply and Sanitation Funding Programme and implemented by a local Non Government Organisation (NGO) called CDI Foundation in Papua New Guinea. The project aimed to benefit approximately four thousand rural people that live in Damayu and Fiwaga village (the two villages that make up Daga Community). This particular case is a typical case in the sense that the project involves a donor, an implementing agency and a rural community who come together to actualise a water development project. Analysis of this case allows us to ‘build theory’ about what, how and why meanings are ascribed to rural development water projects more generally.

A distinction is made between levels and units of analysis. Levels of analysis in this study is seen as the project and the three main stakeholder groups (donor, implementing agency and community) whilst units are the phenomena that this research inquires into. There are many levels of analysis within this case study. The first level of examination is the rural development project. This boundary was dictated by the research question, which enquires into the meanings made by stakeholders within this particular project. It follows then that the three stakeholder groups (the donor agency, the implementing agency and the community) are sub-levels. Within these sub-levels of analysis were also other levels such as the individuals and groups within these levels that participated in this research. Figure 4.1 below summarises the different levels that were examined in this research and is reflective of the fact that the levels are embedded and not necessarily hierarchical and linear.
In contrast to the levels described above, the units of analysis are the meanings that are ascribed to this water project. These meanings are experiences, perspectives, visions, aspirations, livelihood strategies, actions, interactions, encounters, outcomes and events. These units exist and were examined within the levels presented above.

### 4.4.4 Selection of case study sites

The process of selecting the case study site ran parallel to the process of refining the research questions. The research question began generally with an interest to find out how meanings are made within a rural water development project. This generated a need for an appropriate case study site. The selection of the Daga Community Water and Sanitation Project was done purposively based on my judgement as the researcher and guided by these criteria:
1. *Water project*. This type of development project was selected because water is a basic human need.

2. *Diversity of organisations and typical stakeholder engagement*. The project reflected a diversity of organisations that typically come together to implement a development project in rural areas. These include a donor, an implementing agency and a beneficiary community.

3. *Location*: The project was located in a rural village in a developing country that largely depends on foreign aid for development projects in rural areas.

4. *Community receptiveness to development projects*: Daga Community (the beneficiary) is regarded as a model village by CDI Foundation (one of the largest NGOs in the country). They have been the most receptive village to initiatives promoted by CDI, and therefore engage in a wide range of development activities in their community. This stands to explain why they are a critical case for examination.

5. *Community status*: It is also the only village at present in the Kutubu area that has funding from this multi-lateral aid donor and the largest water project funded by the EU-RWSSP in PNG during Phase one of the grant period.

6. *Population*: It is the largest populated village in the Lake Kutubu LLG area.

7. *Self familiarity and accessibility*: It is a community that I am familiar with, have worked in and therefore have access to for the purposes of conducting this research. I also had contact with CDI Foundation and the EU- Rural Water Supply and Sanitation programme which enabled organisation for the research less tedious.

### 4.4.5 Fieldwork

As an ethnographic study a critical part of the research data collection was actually getting out to the sites that the phenomena (units of analysis) to be studied were located. This required me to travel to PNG, specifically to Port Moresby (the capital of PNG) where the head offices for the donor and the implementing agency are located, and to Kutubu in the Southern Highlands Province, where the implementing agencies field office and the beneficiary community were located. The field work component of the research began on the 29th of July and ended October 9th 2009 (approximately 10 weeks). This period was spent in PNG to gather empirical data from the case study site. A month was spent in living in Damayu and Fiwaga Villages. The other month was spent interacting with the implementing agency and the donor.
By its nature, ethnographic research is often seen as a process rather than a series of linear stages that the research goes through. Brewer (2000, p.56) describes this process as ‘a series of actions that produce the end result of the study, and in ethnography it constitutes the series of actions for producing a naturalistic study of some aspect of social behaviour or meaning’. He further stresses that these actions need to be coordinated and planned, but ‘blended together imaginatively, flexibly, often in an ad hoc manner as they best achieve the end results. Before heading out to the field it was therefore crucial to plan the field work as thoroughly as possible considering the timeframe, the methods for data gathering and analysis and making contact with the stakeholder groups that would be involved. Consideration also had to be given to how data collection would be concluded, disseminated and how I would withdraw from the study site. This meant being flexible and adaptive.

The following sections provide an overview on how contact was made and the field work organised and carried out by each stakeholder group.

**CDI Foundation (The Implementing Agency)**
The first stakeholder group that I had contact with was CDI Foundation. I was able to communicate with both the management team and the field staff. Through email I was able to make contact with them to reach agreement to involve them in this research. Furthermore, I required their assistance to make further contact with the PMU (donor) and with the Daga Community. They provided me contact details for an official in the PMU and indicated that they would liaise with the community on my behalf to pass on information. I also sought their services to provide me with accommodation and facilities to store my data and equipment particularly whilst in Kutubu and also in Port Moresby.

Sources of information from CDI were primarily the staff. This included the management team based in the Port Moresby office and the field staff that worked closely with the Daga Community on this project in Kutubu. When I first arrived in Port Moresby I spent one week in the CDI office. This was in order to organise logistics to travel up to Kutubu, but also to continue sourcing secondary data and conduct interviews with the Management team based there. I was given an office space to work whilst in Port Moresby, and used this opportunity to also observe their work and to engage with other staff members and partners that CDI worked with. This provided valuable insight into CDI’s operations and the perspectives of staff members that were not close to the project. I came back to Port Moresby from Kutubu
twice for short visits and used these to further explore issues arising in the field and seek clarification.

I travelled to CDI’s field office in Kutubu and spent a total of two one week periods in their on site accommodation and training facility. Staff live in single quarters at this field based training centre and work a rotation of six weeks on site and three week breaks to their home. Thus the environment is quite intensely focussed on their work. I also interacted with CDI field staff when they visited Daga Community whilst I was resident in the villages. Intensive focus group interview were conducted with field staff, and individual interactions allowed conversational interviews. Participant and direct observations were also used in this instance to gather information. Staff were asked to construct a Venn diagram in order to gain insights into how they perceived power and networks between different groups involved in this project.

As I progressed to stay on site a key informant was identified amongst the staff who assisted in clarifying interviews and issues that arose either from interviews, discussions and observations with CDI staff, in the community or with the donor. Although a staff member of CDI, I trusted this person to provide neutral in site because of my relationship with them in the past. The staff member is also well known amongst the community and respected by the donor agency, and regarded as key to making this project happen. The staff also expressed a genuine concern to learn from this research.

A presentation was given to the staff of CDI on site at the conclusion of the period of the field research. This mainly entailed preliminary insights into the project. This was also used as an opportunity for those involved in providing data to further verify the issues identified and provide further sources of information for the research.
Figure 4.2 CDI field staff working on the Venn diagram
(Picture taken by author, September, 2009)

Figure 4.3 Presentation on initial thoughts to CDI field staff and partners by author
(Picture taken by Allan Kealaua, October, 2009)
EU Rural Water Supply and Sanitation Programme Office (Donor)

Obtaining the email contact for the staff in the Programme Management Unit that CDI mostly worked with on the Daga Water and Sanitation Project I made contact with him whilst in New Zealand. An agreement was also reached in this manner to involve their organisation in this research. Upon arrival in Port Moresby I contacted the staff by phone and made arrangements for a meeting. He suggested two other people that he felt would provide useful insight into the research. We agreed that I would interview the three of them at their office. An intensive interview session was conducted with the three. Following the interview, project mission reports and other documents were given providing background to this particular project, other projects they were funding and of the programme in general. I was unable to make any further contact with this office as much of the time was taken up in the community. Contact was maintained by phone to follow up on any further information that was needed. The main contact became a key informant in terms of verifying information and pointing out considerations that helped to clarify meanings that were emerging.

At the end of the field work a presentation of the initial data was presented to all the staff of the Unit at their office and the CDI Management team also attended this session. This allowed them to ask questions and also to provide further insight into the issues highlighted in the presentation. Staff members also provided me with further material that I could consult.

Daga Community (Beneficiary)

Seeking agreement with the community was much harder than with the two organisations above. There were two main reasons for this. First, whilst in New Zealand it was difficult to make contact with them directly due to lack of communication facilities; they have no email and the public phone at Pimaga station was unreliable. Further, from a cultural perspective this sort of arrangement is most appropriately done face-to-face. I relied on CDI to provide advice on the best way to approach the community and who would be the best person to contact initially within the community. Discussions with staff of CDI concluded that I should write a letter to the two Councillors of Damayu and Fiwaga and ask them to consult the rest of the community. The letter was emailed to field staff of CDI who then took it out to the community. The letters were given to the two Councillors and I was advised that the letters were tabled at their respective Ward Committee meetings. An agreement was reached amongst those present that I was welcome to come and reside in their village and conduct my research. One of the Councillors advised the CDI staff verbally, and they informed me through an email. As much as I wanted a written response, this was not possible, and a verbal
agreement was all I received. I also recognised that to insist for a written response would have been culturally insensitive. The staff of CDI also assured me that the community was aware of my coming before I left New Zealand.

Once I arrived in Kutubu I went with the staff of CDI to the village on one of their patrol trips to Pimaga Government station the weekend before I had planned to go and reside in the village. CDI staff were attending a Kutubu LLG Council meeting, and I felt this was an opportunity to verify plans for the village site visit with the two councillors who would be present at the meeting. I met the two councillors and was fortunate to see the Chairlady of the Kutubu Foe Women’s Association (KWFA). I also notified the Government officials at the station of my intention so that they were aware of my presence and purpose in the village. Apart from been assured that the village was informed and looking forward to my visit, I was fortunate as I had planned to come out to the village on Monday, when the councillors were expecting me on Wednesday. They said that Monday was their council work day and on Tuesday’s the women have their programs. They further assured me that the village was happy to host me in the village.

We (including the Councillors, CDI staff and the KFWA Chairlady) also used this time to further consolidate the general dates and discuss my plans. They mentioned to me that they did not have the letter I sent them on hand, so we used the copy I had brought with me to review my request and research overview. It was decided that the details of who to interview would be determined once I came to each village. As there were two villages, it was decided that I would spend my first visit in Damayu (Daga 1) and my second visit to Fiwaga (Daga 2). They advised me that they would let the village people know that night at the Ahu-a. I spent a total of 15 days in Fiwaga and 13 days in Damayu. I also came out to the village twice on patrol visits with the CDI staff.

When I arrived at Damayu village an extravagant welcome was organised, which surprised me. It was a cultural greeting where I was met with flowers and a singing group. This can be quite over-whelming when you do not expect it. Several village male leaders and a female representative (all of whom I knew from previously working in this area) came and met me on the road up to Damayu from Pimaga Station and walked me into the village. A crowd of village people were gathered in front of the house that they call the “culture haus”\(^6\). The women’s fellowship group, dressed in their uniform, started singing and were followed by the

\(^6\) A house that looks like the Ahua but much smaller and used as replicate of the main Ahua.
theatre group who put on two drama skits as part of the welcome. Following some of 
welcome speeches from members of the community I was asked to speak. I explained the 
general purpose of my visit, what I intended to do. After general discussions, food was 
served. I was then asked to go to Fiwaga to have a look around and meet the community 
there. This allowed me to conduct my first transect walk around the two villages. Although I 
was familiar with the village from past visits, I was particularly interested in the water supply 
facilities: taps, shower blocks and drainage systems. The women that took me around pointed 
into the distance indicating where the dam and the Southern Cross tank were placed up on the 
mountains behind the village. Being in the village provided me insights into how large this 
project was. We sat in Fiwaga informally chatting with various people whilst the group that 
was trying to decide where I would sleep continued their discussions. After about two hours 
or so, it was finally decided I would stay at the house of the councillor.

That afternoon, the councillor, his wife and several leaders in the village gathered at his place 
to talk. Apart from catching up and finding out how things were in general, I used the 
opportunity to identify how I would proceed with my interviews. The preference seemed to be 
for me to do group interviews. Recognising that this would avoid any ill feelings that people 
or groups of people were missed out I also agreed to proceed in this manner. A total of eight 
community groups were identified and scheduled. The schedule was then put on butcher 
paper and the councillor took it up to the Damayu Ahu-a to let the community know. He came 
back and indicated a couple of changes that were made to the schedule and further 
adjustments were also made to the timing for interviews. I noticed the next morning that the 
butcher paper (flip chart) with the schedule was stuck on the wall of the village trade-store 
most central in the village, to inform groups of their interview times.

Three members of the community became key informants and would visit me each evening to 
talk about the group interviews. Having the three of them allowed for me to see the issues 
from their perspective as well. Furthermore, as I knew them quite well from before, I could 
understand the manner in which they clarified things for me. The informants in Damayu 
included one female member and two male members. As I resided in their home, the 
Councillor and his wife would also join in our discussions. At least one of them was also 
always present in my interviews acting as a translator when necessary. The interviews were 
all conducted in Tok Pisin (a local PNG Creole used right throughout the country). Although 
most of the people that participated knew how to speak Tok Pisin, there were occasions when 
they could not. This was mostly women (in all age groups) and older men.
All eight groups were interviewed so as to give everyone a chance to speak, and to avoid offending anyone. Apart from their eagerness, one of the main reasons was so as not to cause offence to the groups that were scheduled to be interviewed. As guest I did not feel it was my place to cause offence. I felt that to mention that I had collected all the information I needed and to disregard some of the groups would be a sure sign of disrespect. Despite this, it was useful to conduct all group interviews as when saturation was reached it was evident that there were common view points from different groups and striking points of difference. The schedule of interviews to be conducted in Damayu is attached in appendix A. I left Damayu village after a period of thirteen days and completing all the interviews that were scheduled.

After been away from the community for thirteen days, my second visit to Daga community was to Fiwaga Village for a period of fifteen days. As in Damayu I was welcomed with traditional singsing, flowers and a kaikai. This time though, there was not so much debate over where I would sleep. It was decided that I would sleep in one of the Kanemo-a’s next to the Ahu-a. This was ideal as having stayed in a private home in my first visit, living in the Kanemo-a on my second visit gave me a different perspective to the village life. This also was the intention of the villagers and they told me as much. I noticed on my first night the significant difference. Being in a women’s house I was restricted to interacting with women mostly after my daily interviews and participating in community activities in the village. When the men came to visit in the evenings we would talk on the veranda of the Kanemo-a or go up to the veranda of the Ahu-a. I also noticed the coordination role that the Ahu-a played in the village, as announcements to the village were made from the Ahu-a. In both villages this massive house sits at the highest point of the village, and when the leaders speak from within in their deep voices, the message comes very clearly into the Kanemo-a’s sitting on the side. When they described the life-style of before, I was also able to use this experience to relate to the old way of living around the Ahu-a verses the new way now of having private homes away from the centre of the village. This pattern of housing was discussed in Chapter three.

Having heard about how I had conducted the interviews in Damayu village, the groups in Fiwaga had already indicated their interest to be interviewed to the committee even before I came to their village. A total of seven groups were scheduled and I was told about it when I arrived by the committee. The list of groups interviewed in Fiwaga is attached in the appendix.

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7 Tok Pisin word for food.
8 The Committee is the person second in line to the Village Councillor. The Village Councillor in Fiwaga was away in Port Moresby when I visited the village.
B. Adjustments were made to the schedule depending on events that came up, but the seven groups committed to be interviewed and like-wise I adhered to ensure that I met with all groups.

Key informants were also identified. This time there were two women and two men. They played a similar role to the ones in Damayu, translating when necessary and helping to debrief on the interviews conducted in the day. At the end of the field work period a presentation was done in the community. This was carried out in the *Ahu-a* at Fiwaga and attended by both villages. Following the presentation there was a traditional singsing session that started at 8pm in the evening until 6am the next morning. This was how I was farewelled from Daga.

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*Figure 4.4* Picture of women leaders working on the village map in Fiwaga

(Picture taken by author, September, 2009)
Figure 4.5 Picture of men leaders working on the village map in Damayu
(Picture taken by author, August, 2009)

Figure 4.6 Picture of welcome to Damayu village (Daga 1)
(Pictures taken by Solomon (CDI driver), August and October, 2009)
4.5 Data collection

As an inductive research project, data needed to address the main questions were gathered using various qualitative data collection methods in tandem. Specific methods included interviews (in-depth, semi-structured, unstructured), participant observations, direct observations, focus group discussion, story telling, collection of secondary data and participatory or interactive methods (transect walk, Venn diagram and village mapping).

In ethnographic research, triangulation is a matter of routine as pointed out by Brewer (2000) because ethnographic research typically uses more than one method of data gathering. Ethnographic research of this nature requires the development of a relationship between the researchers and the researched in which there is close involvement in the setting and direct participation in the activities under study and in the study itself. This enables various sources of data to explore a phenomenon.

4.5.1 Interview profile

The following is a summary of the people that were interviewed in each group.

- **Implementing Agency – CDI Foundation.** Three members of the management team all male were interviewed, and a total of 12 days was spent observing, participating and interacting with staff and partners that visited the CDI office, before I left for the field site in Kutubu and after a returned. In the field four staff members all male were interviewed initially. A total period of three weeks was spent in the CDI Kutubu facilities. As a site location, the interaction included working hours and after hours. This allowed me to interact with a wide range of staff members. I was able to interact with the only female staff member on the livelihood programme after she returned from a field trip and three of the other public health staff also when they came back to site. A Venn diagram session was held with the original four that participated in the first intensive interview and the female member that was initially not present at the end of the field work. The presentation given at the end allowed for all staff members present at the time to provide some form of input and feedback on the research. This included all teams in the organisation based in this field site.

- **Beneficiary Community – Daga.** A total of fifteen community groups participated in group interviews (a total of 156 people were involved). The list of groups is attached in appendix A and B. Individual discussions and conversations were held with a wide range of village people. Intensive discussions were held with the informants each
evening after an interview. Three other intensive interviews were conducted with the leader of the Kabugi women’s group, a widow and two local women that did not participate in any of the women’s group activities in Damayu and Fiwaga. They did though participate in the Kabugi Church Women’s group activities.

• **Donor Agency** – Programme Management Unit. Three staff members participated in a semi-structured intensive interview. Follow up conversational discussions were held by phone or via email with the key informant and other members of staff.

Criterion, opportunistic and snowball (non-probabilistic or purposive) sampling techniques were used to select members from each group. A set of criteria was used when applying the criterion sampling. Participants were also selected based on the opportunities that arose to interview or observe an event that provided insights (opportunistic sampling), and from suggestions and recommendations from others (snowball sampling).

### 4.5.2 Data collection procedures

Data collection entailed the use of qualitative methods. The data was collected in two parts. Part one included the collection of secondary data and part two the gathering of primary data. Secondary data largely entailed the review of project planning documents, reports in relation to the Daga Water Project; Government profiles and reports on the area (Census, SEIS reports, ward profiles); organisational profiles and planning documents of CDI and the EU – RWSSP and information from their websites; and any publications and reports that stakeholders will refer me to on the area and the project. Review of some of these documents helped prepare for the field work and to review the guiding questions for each stakeholder group. They were also reviewed during the analysis stage to help verify information or make comparison between the written documents, the observed behaviour and experiences and the explanations given during interviews.

Primary data was collected during the field work where I visited the donor agencies work place and worked at the CDI office whilst in Port Moresby for a total period of two weeks. In Kutubu, I worked, and lived in the CDI Kutubu Facilities in Moro and resided in Damayu and Fiwaga Village for ten weeks. My role was the known researcher. Methods employed focussed on enabling me to qualitatively construct an understanding of the context (reality) of the three stakeholder groups, and to gain insight and understanding of their perceptions,
experience, attitude, actions, utterances, behaviour, feelings and the meanings that they gave to this rural development project. The main methods employed were recording the above through a variety of interview methods (in-depth semi-structured and unstructured with individuals, groups and key informants), focus group discussions, observations (participant and direct observations of events and activities on a daily basis), story telling, participatory interactive methods and photographs. These are discussed below.

**Key Informants**

Key informants in all three groups played a major role in providing sites for exploration within their respective groups and in other groups as well. By using more than one informant, I was able to cross-check between the informants in different groups on issues that were emerging within the group or across the groups.

**Interviews**

Two main types of interview methods were employed. This included the semi-structured (in-depth interview) and the un-structured (informal) interview technique. The structured interview method was not used in this research, as it focuses on asking the same question in a close ended manner (i.e. asking the same questions in the same order, seeking a choice of predetermined answers). Unstructured interviews, which was mostly utilised whilst resident in the village and at the CDI Facilities in Port Moresby and in Kutubu and in interactions with the Donor Agency when we met, by phone or by email, are interviews with no predetermined questions. Using open ended questions (not seeking any predetermined answer), they occur circumstantially and around a particular phenomenon of interest to both the researcher and the informant. The semi-structured interview is similar but uses a question guide that was modified in the course of the interview. The group or individual interviewed was predetermined and not circumstantial (Babbie 2004). Patton (1990) argues that all three can be used in tandem; I was able to use semi-structured and un-structured in tandem. Formal interviews were not possible as this would not provide the type of data I was looking for.

Most of the interviews conducted in the village and with the CDI staff were circumstantial (informal or unstructured) with individuals and groups. This became particularly evident with the key informants as we met to talk about the semi-structured and focus group interviews that were conducted. Circumstantial interviews were also appropriate in the settings as it provided opportunity to interact with people as the occasion allowed, further enhancing that people are in their naturalistic setting providing information. This was also culturally appropriate as most
people meet and in their interactions they have conversations of interest. For example, as we would drive to Daga Community the Key Informant in CDI and I would engage in an informal interview (discussion) about how the project was progressing and issues relating to my study.

Semi-structured interviews were mostly utilised with groups and were prearranged. A set of guiding questions (or probes) were used to open progress and close the interview. Often interviewees would be told the amount of time it would take, but in some instances the interview would take longer than planned. These interviews were conducted with donor agency staff at their office, with the CDI Management team and Field Team and with the Daga Water Committee initially. Information drawn from other methods of data collection resulted in the need to conduct a semi-structured interview with a particular individual or group. For example, after conducting a village mapping exercise with village elders (mostly male) I found that there were land ownership issues around the placement of the dam and the main Southern Cross water holding tank. Reviewing my notes from that session, I put together a list of questions that were used to interview the clan leaders that owned the land that these facilities were placed on. Thus although some guiding questions were prepared before leaving for field work in New Zealand, guiding questions were also formulated during the field work as data began to inform the research. Sample of the structured interview guides developed for groups initially identified are attached in the appendix C.

In all cases none of the interviews were recorded. Notes were made during the interview in both English and Tok-Pisin. At the end of each day or immediately after, the conservations would be recorded in my notebook and turned into reflective notes.

**Focus Group Discussions**

This method was used the most in the community. The difference between focus group interviews and group interviews is the discussion is often focussed on an issue and not necessarily the researcher and the participant. General consensus amongst authors (e.g. Morgan, 1997; Krueger and Casey 2000; Liamputtong and Ezzy 2005) is that the composition of the group is on the basis of familiarity (not anonymity) and social and cultural homogeneity (i.e. gender, age, religion, socio-economic background, education, occupation, status and ethnicity) that generates free flowing discussion. As the initial suggestion on how to conduct my research in the community was to begin with community groups (groups with common interests and belonging to one community institution), these sessions were used to
gain detailed and initial data on their perceptions, interpretations, knowledge, experience, beliefs, thoughts, feelings and impressions emerging from within the group on their group, their lives in the community and the water project.

There were some difficulties with implementing this method in the community. Firstly, when people get together in any gathering in Daga one will notice that there are those that will talk and there are those that will watch. The presence of those watching has an influence on those talking. Those that were there to talk would also walk away from the interview when they needed to. Therefore it was important to follow up either with the group or with the individual on points made by a speaker who was no longer present. It was difficult to have a select few and take them away somewhere in the village where others could not join. All the focus group interviews were public events. Three main venues were utilised in conducting the interviews. This included the Ahu-a where most of the male interviews were conducted. As a female member I was allowed in just a little into the Ahu-a to be able to conduct my interview with them. The suggestion to have this discussion at the Ahu-a was made by the groups so I followed where they decided would be appropriate. The meetings with the women groups were conducted at the Councillors house in Damayu, at the Culture House and in the Kanemo-a I was living in. Church groups were interviewed in the Church building and interviews with the youth groups (sports, drama, and string band) were conducted in the home of one of the members. These discussions would also be prolonged by the large number of people present. Culturally in the Daga Community getting together and talking is a typical activity. Often these *bung* (get togethers) do not have a time constraint. It was therefore also difficult for me to set a time-constraint. The discussion was guided to strike a balance between ensuring that the key issues that I wanted covered were covered, allowing for informal discussion at the start and at the end, allowing them to raise their own issues for discussion and ensuring that we finished without offending anyone in terms of being too stringent with the time-frame. The longest focus group discussion I had was with the village elders. This gathering included sharing a meal, then having tea and taking breaks to have cigarette and *buai*\(^9\). It started at 9 am in the morning and concluded at 3 pm in the evening up at the Ahu-a.

There were also occasions where as the facilitator I had to manage the group to ensure that I had access to as many voices as possible in the group. I managed this by asking members within the talking group that did not say much for their opinion, and noted that other members

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\(^9\) *Buai* is betelnut that is chewed with mustard and lime powder. This is often shared during social gatherings.
of the focus group also began to play this role. For example, as I was interviewing the drama group, I noticed that the young men were talking more than the young women members. So I politely asked the young women if they had anything to say. One of the young men picked up on this, and as the interview proceeded, when he noted that the women were becoming quiet, he would also ask the women for their opinion. One of the things that contributed in mixed group interviews was that I was a woman. This caused the men in the group to encourage the women to express their views. This very behaviour also caused me to draw caution to the issues of gender relations within the community. Focus groups where I had mixed gender groups were the theatre group, the sports group and the church elders. All the other focus groups were gender segregated.

I found the focus group discussions useful in providing perspectives amongst a group in the community, and also allowing within the discussion for them to clarify things from different corners of the group. I also noticed on a more practical note that it allowed the group to engage in a discussion with a neutral facilitator (the role that I played) to explore some of their own issues but related to my research. My research interest and their interest in the water project were in this case similar. For example several of the groups I met with, left with more ideas about how they could further contribute to sustaining their water project facility, which was in relation to my study, but also something that they as a group, and members of the village and the community had an interest and a say in.

**Participant Observations**

This method of data gathering was the most intense method employed. It requires the researcher to assume the role of an insider and to participate in events and activities within the case studied. Lofland et al. (2006) point out that the main instrument of data collection in this method is the researcher. Brewer (2000) advises that it is important on the onset to clarify the role of the researcher within the community. He posits two types of roles that researchers take in participant observation. These include the pure participant observation (acquisition of a new role to research in an unfamiliar setting). The variation to this he identifies is when the researcher takes on a new role to research a familiar setting. I fall into the latter. As a researcher, I have changed from my previous role as a development worker. This enabled me to cross between understanding the insider and still be able to draw upon my new role to see things from the outside. Generally, the two years away from the community and from working on development in PNG, and in particular in the Kutubu area, helped to examine things from an outside perspective but also be able to draw upon this past experience and the present to be part of the inside.
Much of the participant observation was conducted out in Kutubu at both the CDI Field facilities and in Daga Community. The reason for this was that the case study project was located out here. Therefore, the intent was to become closely involved in the lives of those that were working on this project to generate data through watching and listening to what people naturally do and say, and to add the dimension of my personal experience through sharing the everyday life of those I was studying. This provided insights into understanding the issues from the perspective of those acting within it, and most importantly my interest in understanding meanings given to the water project meant understanding what are referred to as ‘common sense’ nature of the context I was studying (Brewer, 2000). This meant understanding routine activities like making sago the way that they made it, or why their houses were arranged the way they were, or how people participated in community’s activities. None of the things I observed and participated in were organised by me, they were everyday events that occurred in the village and in the organisations that I participated, experienced or encountered because I was resident in that particular place.

**Direct Observations**

Similar to participant observation this method was employed whilst living in the community and in the offices of the donor and the implementing agency. The intent was to become closely involved in the lives of those that were working on this project to generate data through watching and listening to what people naturally do and say. Unlike participant observation, direct observations (including documentary evidence and photographs) can also be referred to as an unobtrusive method (Kellehear, 1993). These are methods that require the researcher to observe and not to participate directly in events or activities within the case site. Bell and Lyall (2005) point out that the role of the researcher, in direct observations, can either be covert, overt or a combination. Although it was known generally that my presence in the village was for purposes of my research, none of the activities conducted were staged particularly for me to observe. In this instance, I was a covert observer. This allowed me to observe everyday events and activities without the participants knowing that I was doing this. For example, I would watch how a sports team would organise themselves to play another team, or the theatre group preparing for a singsing.

Everyday in the village and whilst with the two organisations (donor and implementing agencies) written and mental notes were made of everything I observed. Each evening a recount of my day and the experiences I had including my attitude towards these things were all recorded and kept in my field notebook.
Story Telling (Narration)

Stories are verbal expressions that narrate the unfolding of events over some passage of time and in a particular location (Eckstein 2003, p.14). She further adds that for purposes of planning, a focus on storytelling emphasises the elusiveness of truth and the complexity of desire. Storytelling was used with all three stakeholder groups to gain background to the groups, their context and about the project and how it was planned and implemented before I arrived and their desires for this project and what it meant to them.

Background information on the project was compiled in reports by both the donor and the implementing agency. Thus, the focus initially was to seek background information from members of the community. Their stories caused me to further probe others in the community and the donor and implementing agency staff, and review the written reports to triangulate the events in the different stories. In the village context, these narratives also entailed the telling of *tumbuna stories* (ancestral stories) which linked events of the past to this project, and their desires for the future. Narratives from CDI staff particularly those in the field and the Donor agency emulated how the individuals or groups felt about the project and the people that were engaged in it, and also the outcome that they hoped to achieve in this project verses what was written in the reports. Story telling would start with me asking them to describe how the project began and what they hoped to achieve through this project. It was often used in mutually with interviews (semi-structured and informal) and the participatory interactive methods.

Participatory (interactive) methods

Participatory interactive methods are tools that are used to enable groups to engage in either discussion or diagramming to identify themes, concepts and perspectives. In general, they enable the researched to express their inner feelings and thoughts through various means. There is a wide range of participatory tools that are used for research, appraisals and planning purposes (Chambers 1997; Gittelsohn and Mookherji 1997). The specific ones that are used in this research were *transect walks, village mapping and Venn diagram*. Focus group and group discussions also fall within this category of methods, but I will describe only these three within this context as they included engaging the participants to produce diagrams of the issues discussed. These diagrams were useful in complimenting information sourced through the methods used.
The *transect walk* was carried out in initial visits to both villages and on following days as well as I continued to explore the village during my time of resident there. I was accompanied by village people, and shown certain features of the village. This included land boundaries, special sites, resources within the village and helped gain an understanding of the physical and social structure of the village. Following these walks, I sat with the key informants in Damayu and Fiwaga to capture the things that were noted during the walk. This included location of physical facilities and boundaries, as well as identifying areas of responsibility of the different groups in the community. Of particular interest for this study was how the water supply system fitted in within the existing physical and social structure in this village. Transect walks were also conducted with CDI staff when they came to the village. This offered an insight into the village from an outsider perspective, but that worked closely with the community.

*Village mapping* sessions were conducted with four groups in the village. The aim of getting groups within the village to construct village maps was to allow them visually demonstrate the village context in relation to changes in the community and the development project. As the intention of this research was to also help the stakeholder groups through this research process gain some useful insights that would help with their project implementation, the village mapping exercise was also found by the participants as they graphically described their village and the related issues. The first village mapping session was held with the village elders. The aim of this was for them to show how the village looked like in the past and how it looks like now. This was to allow them to highlight the key changes that they saw in the community without focussing particularly on the water project. Realising that this was mostly the village elders’ perspective (mostly male), a similar session was conducted with the women leaders gaining insight into how the women saw the changes in the village. Similar sessions were also carried out in Fiwaga. These maps showed the current physical features, but also entailed narrations of how the village had changed and

*Venn diagram* is an interactive method that is used to identify key institutions, organisations, individuals and their relationship with each other (Jones 1996). In this research it was used to describe those involved in this project and the nature of their participation and relationships. It required the groups to identify the institutions and organisations involved in this project using circles. The size of the circles portrayed what the group through discussion perceived was the interest of the group in the project. They then placed the circle in relation to the project. The distance indicated their agreed and perceived involvement (participation) of the group in the
project. Finally the groups were asked to draw a triangle to represent the power of the group to influence the project. This exercise was carried out with the field staff of CDI and the members of the community that were identified as making up the water committee at the start of the project and would continue to be in after it was completed. Although this group was not formalised, they were recognised in the community as the main players in planning and implementing the project. This was compared with the views of the CDI staff to be able to compare and contrast who the key individuals at the community level saw as participating, influencing and having power in this project.

Field notes
Field notes were another method that was used to gather data. These contained my recount of the day at the end of each day. These notes were kept in my diary, highlighting the main events that took place that day and my thoughts and feelings about what I was experiencing, observing and feeling in the day. These were used along with information collected in the other methods highlighted above in the analysis.

Documentary Evidence
Complementary to the field work was the collection of secondary sources of information before, after, and during the field work. These were mostly obtained from the donor and the implementing agencies. Others were also sourced from the Kutubu Local Level Government, the Oil Company operating in the area and from the internet. In the case of the Daga Community there was no written data that could be sourced from the community. Studies in general on the Kutubu area focussed were mostly anthropological, environmental and land issues due to the petroleum project in the area. Generally the information sourced included a review of project planning documents, reports in relation to the Daga Water Project; Government profiles and reports on the area (Census, SEIS reports and ward profiles); organisational profiles and planning documents of CDI and the EU – RWSSP and information from their websites; and any publications and reports sourced from the groups on the project. This helped review the questions formulated earlier and gave insight into stakeholder perspectives on the project, and the conditions of the context (environments) I was walking into. As suggested by Lewis et al (2003) this was necessary in the case of the two organisations (CDI and the PMU) to be aware and to identify any divergence, inconsistencies and commonalities between their project and organisational operational documents to their practices and utterances of what and how they think about their work.
Photographs
Take photos of events and activities related to the water project was another way of collecting information from the field. These photographs reminded me during analysis of some of the things that took place and how people live in the village. Photos were taken of people using the facility, of the arrangement of the village, and work that was carried out in implementing the project. Photographs taken by CDI staff and the Donor Agency were also shown to me and requested when telling stories about the implementation of the project.

4.5.3 Saturation
Saturation basically is the process where data is collected until no new themes emerge or where there are no more relevant data to be collected in the field. As Dick (2005) highlights, this is the point when a researcher feels that they have reached a point of diminishing returns. Patton (2002) further explains that this decision in qualitative research is once again determined by the researcher.

During the various data collection periods saturation was reached when I felt that the responses or issues I was observing, feeling and noticing was being repeated through the different methods or by the participants. In interviews for example this would be noted when people participating did not have anything more to say about the question. To check, the question would be rephrased to ensure that all responses had being exhausted. In general saturation to the key question was identified when the information became repetitive.

4.6 Data analysis and interpretive methods
Data analysis occurred simultaneously with data gathering and in an inductive manner. This follows Lofland et al. (2006) who argue that the analysis should be driven by the data and that the researchers’ involvement is fundamental in making meaning. The analysis of data in this study involved exploring the actual viewpoints from the participants to identify patterns among the data that related to the theoretical understanding of the study proposed (Babbie, 2007), categorising the information into codes, which were then clustered into concepts and finally into more general classification themes. Brewer (2000, p.106) points out that it is critical in ethnographic studies that proper analysis is carried out because of four main reasons. These are (1) data come in the form of extracts of natural language, (2) they are
personal to the researcher (3) they can be generalised although they are limited in scope and (4) they tend to voluminous in scale.

4.7 Research challenges and human ethical considerations

4.7.1 Challenges

Numerous challenges were faced in terms of the research methodology, accessing and participating within the different cultural contexts of the stakeholder groups and practical aspects of getting this sort of research implemented, despite all the planning. As a single case study, the intent was to ensure that all three stakeholder groups be thoroughly examined. In the field this was not possible. Much more time was spent in the community than with two external organisations, even less time particularly with the donor agency. This was due mainly to the community having larger population to cover and lack of written background on the project and its status. Thus all of this from the community’s perspective had to be gathered through narrations, interviews and observations. Another, more practical, reason for this was the distances between the physical location of the aid funded project and the community, to that of the donor and the implementing agency. High logistical costs lack of communication facilities in this rural area caused me to focus on spending more time in the community gathering data than with the two agencies. It is therefore important that these findings present the contexts that were accessed within this case for a period of time.

It is recognised that each context that I interacted in this study had a cultural context. Although I was able to straddle between being the ‘insider’ and the ‘outsider’ as the researcher who was within the case context, I was also always weary of my profile as a Papua New Guinean woman, who had worked within the project location site and with the implementing agency. Recognising how this could influence how this could influences responses; these were taken into consideration when interpreting data. Thus it was also important to position myself within the context that the data gathering was taking place and profile the relationship between myself and the researched. On the flip-side, this characteristics and experiences enabled me to have insight into aspects of the community and the organisation that someone unfamiliar with the intricacies of the context and the relationships would not have sighted. This also applied to how I carried out the different methods that were employed in the research. In each case, appropriate language and
acceptance of manner in which people conducted themselves in a group discussion or focus
group ensued that I was sensitive to the ways of the group.

With all three stakeholder groups, there was a general willingness and sense of corporation to 
participate and contribute to this research. The challenges were particularly with 
communication and transport in the community. I relied on the implementing agency, CDI, to 
provide these, and therefore had to organise my travel needs and access to telephone and 
email to their work schedules. This resulted in not having any communication access whilst in 
the village, or the use of the lap-store to store data. To get a message to CDI, a note would be 
passed through local Passenger Motor Vehicles (PMV) going to Moro (CDI facility). 
Sometimes the notes would not get through, and this could result in not having enough 
rations, paper or batteries.

4.7.2 Human ethical considerations

The Lincoln University Human Ethics Committee granted approval for the fieldwork before 
departing New Zealand. Agreements were also in place with both the donor agency and the 
implementing agency, with letters received from Heads of both organisations before leaving 
for PNG. These letters stipulated that they agreed to participate in the research and giving 
their consent that information needed for the research could be sourced from their staff and 
any documentation that was related to the Daga Community Water and Sanitation project.

To reside in the village included initially getting approval from the village leaders to live and 
reside in the village as I am not a local person from this village. My request was accepted as a 
visitor. Furthermore, as I engaged with each group in data gathering activities, consent was 
sought verbally from the individual participants. Generally in all instances, participant 
confidentiality was maintained through the descriptions of their position and role within the 
stakeholder group. In the community, confidentiality became a sensitive issue that needed 
clarification. The reason for this is that they did not fully understand why their names would 
not be used in the thesis. It was important to clarify that this was based on human ethics 
policy of Lincoln University. Each person verbally mentioned their names, whilst one 
appointed person wrote them down, as not all members were literate in English. Agreeing to 
have their names listed was also explained to them as a form of giving consent to participate 
in the research.
4.8 Chapter Summary

The purpose of this Chapter was twofold. First, it aimed to provide an overview on the main philosophy, theoretical perspectives, methodologies and strategy and research procedure considered and taken in designing this research. It makes explicit that this research is a qualitative research that aligns with the epistemological and ontological assumptions of the humanistic model or paradigm in social science. The ontological view or concern is with social life in real naturally occurring settings. It emphasises that society is wholly or partially constructed and reconstructed on the basis of interpretive process and that people are able to tell or explain to others what they mean. The epistemological assumption is that knowledge of this socially constructed world can be understood through the examination, observation, description and analysis of the meanings and experiences of the people who live in them.

Furthermore, as an ethnographic methodology is applied the research lends itself to the use of a case study strategy to get close to the naturally occurring setting to explore the meanings ascribed to a development project. This strategy allowed access to deep and rich information that generated insights useful in other similar situations.

The second purpose of this Chapter was to describe and explain in detail manner and considerations that were taken in collecting and analysing data needed to answer the research questions. A variety of data collection and analysis procedures were employed in this study to investigate the meanings given to the case study development project by three stakeholder groups. Apart of explicating describing how these methods were employed and why, this Chapter also dealt with issues regarding triangulation, sampling and saturation as they have implications on data the units of data gathered. In qualitative research and particularly in ethnographic work, the thick descriptions lend themselves to the need to sort through the data to make meaning. The primary instrument of data analysis is the researcher. Thus, this Chapter also clearly addresses how data reduction, presentation and organisation were carried out. It ends by highlighting the challenges encountered with the methodology, the interaction between the researcher and the researched (thus the cultural context of each case) and finally some of the more practical constraints faced in the field. None of these though had a significant bearing on the research. Finally it ends by highlighting the ethical considerations of the research.
Chapter 5
Case study stakeholder perspectives: Results

5.1 Introduction
This Chapter presents the results obtained during my field work in Papua New Guinea; these are based on my interaction with the three main stakeholder groups involved in the Daga rural water supply and sanitation project. My aim was to gain insights into the meanings ascribed to the water project by the three groups, and to be able to compare and contrast between the different groups to identify how the meanings influenced project implementation.

The results are presented by stakeholder groups in sections 5.2, 5.3 and 5.4, respectively, starting with the ‘donor’, the Programme Management Unit, (PMU), who provided the funding to support the implementation of the project. Results from the ‘implementing agency’ (CDI Foundation), who played an intermediary or facilitation role between the donor and the community, follow. Finally, I present the results from the ‘beneficiary community’, Daga, whom the project was to benefit.

As detailed in Chapter three, in brief the project aim was to:
   a) Improve health of the Daga Community and the children attending Tanuga Top-Up Community school through provision of water, sanitation and hygiene, and
   b) To provide a sustainable safe drinking water system, improved sanitation facilities and hygiene practices to the Daga Community and Tanuga Top-Up Community School.

The expected results included a functional and sustainable gravity fed water supply system, 40 taps installed, training in sanitation and hygiene practices, four student toilets, and training in management, repairs and maintenance of the water supply.

5.2 Donor perspectives
The field work started in the Port Moresby office of the PMU. The unit had a total of 11 staff who worked in different sections. These included the Technical team made up of engineers, the Community Development team made up of development specialists, the Monitoring and Evaluation Team and the Finance and Administration team. Both local and expatriate staff work in the unit. This section focuses on the meanings ascribed by the PMU staff members to
the project in Daga. These were water as sanitation, water as empowerment, water contained and distant water.

5.2.1 Water as sanitation and health

The main role of the PMU is to manage the RWSS Programme which is tied to the EU and the PNG Government objective to achieve PNG’s Medium Term Development Goal: “To improve the health of rural communities through the provision of increased access to safe water supply and sanitation facilities”. The programme also aims to achieve the EU’s Pacific Regional and National specific development goals. The strategic approach they use is to work with non-state actors (NSAs) that have the capacity to deliver their particular programme objective to “facilitate sustainable demand-driven community owned rural water supply and sanitation schemes” (RWSSP, 2009).

PMU promotional material makes it clear that for them, water means improved health outcomes through better sanitation. This is also made explicit in statements from PMU members concerned about the project objectives becoming muddied. As taken from the PMU technical advisory note\(^\text{10}\):

> Prioritising sanitation will improve health far more than prioritising the water supply. It can be done by spending more time on adjusting public health and sanitation (PHAST) and health education with different sections of the community, targeting children more, starting the project with sanitation, using sanitation activities as an incentive, emphasising the benefits of toilets rather than their construction, i.e. Community Led Total Sanitation methodology.

Although their goal was to facilitate demand-driven\(^\text{11}\) projects – defined as those where communities determine the objective of the project and identify the need - the PMU staff felt that the implementing agencies and communities they were supporting seemed to give higher priority to activities related to water supply than they did to sanitation activities. This was made clear during the interview with the PMU expatriate community development specialist when he said:

> In the Daga Project, the latrine side of things have failed. The results are not what we wanted even though the training was given right at the beginning. I guess if I lived in the village, having access to water

\(^{10}\) This is an official notification that is sent out to all stakeholders about certain policy issues within the funding programme.

\(^{11}\) Refer to chapter 2 on demand driven verses supply driven projects.
supply would motivate me more than improvements to sanitation issues. Water definitely is a priority for the community over sanitation.

Thus, stressing the difference they have found in the community, the expatriate technical engineer said:

*We have found that sanitation has more impact on health improvement than water, but water seems to be the area of interest. The main way in which we work is to focus on facilities and behaviours. The most important aspect of the project for the community seems to be the water component.*

PMU’s May mission report\(^{12}\) (2008) expressed staff concerns that the focus on water supply infrastructure aspects makes the project weak in terms of achieving the changes in public health goals they set out to achieve because they write:

*Public health and sanitation activities should be conducted to ensure that the water supply supports a broader hygiene and sanitation initiative.*

Improved sanitation leads more directly to improved health than improved water supply does, and therefore water is a means to an end (sanitation), rather than an end in itself.

### 5.2.2 Water as community empowerment and sustainable development

Further to projects that aimed at improving health and sanitation of the community, these projects also posed other challenges as highlighted by the expatriate community development specialist, when he said:

*The projects are not just engineering challenges, but changes need to occur in order to ensure that there is ownership and that the projects will be sustainable.*

As the largest gravity fed system in phase 1, the PMU staff identified various challenges with this project related to their broader goals around community empowerment and development as stated in their May (2008) mission report:

*This is possibly the largest gravity fed system during phase 1. It highlights some subtle differences with smaller communities in terms of community awareness and the amount of community mobilisation that should occur. It would be easy for many members of the community to be left out of discussions and decision-making, if the NSA facilitation does not allow enough community planning at the beginning of the project. In the case of this village [Daga Community], it is quite possible that decisions concerning locations of*

\(^{12}\) Mission reports are reports by PMU staff when they come back from field trips that provide an account of their insights and thoughts on the project and next steps to take.
water-points have been made by a select few traditional leaders. Wider community participation is critical to sustainability.

The interview with PMU staff highlighted ways in which they address these challenges of ensuring that there is wider community participation in decision making.

The main approach was to focus on building the capabilities of the implementing agency or NSA. This strategy was based on the assumption that projects will be administered better if the implementing agency’s attributes, skills and knowledge are enhanced. One of the practices within the PMU was to carry out a capacity assessment of the implementing agencies submitting proposals, and, where necessary, implement a capacity building programme. The local community development officer explained their rationale for this approach when he said:

Community selection is done by the NSA. We assess the NSAs capacity and provide support through them and provide guidelines to the community through the NSA. We choose the most appropriate NSA and train them in areas necessary and on the project systems and reporting requirements; NSA choose the community through their proposal submissions.

It is important that the implementing agencies have the appropriate capabilities because the PMU depends on them to achieve the RWSSP goals. As the expatriate engineer said:

Our delivery mechanism is through the NSA (non-state actors). It is their responsibility to ensure that the project is delivered according to the project plan.

Donors’ reliance on implementing agencies means it is essential that capacity building is an integral part of such projects.

In the Daga project there were three strategies that the PMU used to ensure that CDI promoted the long term sustainability or viability of the project. The first was to ensure that the project was community-driven and owned. As highlighted in their technical advisory note, one of the main criteria for selection was a demonstration that the community could contribute 10 per cent of the total cost of the project. As indicated in the May mission report (2008), the PMU staff member wrote: “This project operates with a very motivated community, who contributed more than their required 10 per cent”. Thus, this had enabled the community to have the project funded, as it indicated community motivation and at least partial ownership in a financial sense.
The second strategy was to ensure that there was a water supply and sanitation (WATSEN) committee established in the community to manage the project. Consistent with its view of the project as a means of empowerment and capacity building, the PMU thought the WATSEN should be inclusive and have broad representation. This proved problematic because, as the engineer responded when asked if the WATSEN was in place:

*A bunch of men that get together and make decisions is not really in effect a WATSEN committee. It is not how we want to see the committee work.*

Consequently, the PMU recommended CDI as facilitators to setting in a water committee in the community, whereas CDI thought it should be managed by the local council. The PMU did not feel that the local council had the capacity to manage this project, nor did they believe this approach would involve wide representation from within the community. This dispute over long-term aspects of the project is telling in terms of the meaning of the project as a mechanism for empowerment and capacity-building.

The PMU’s third strategy demonstrating the meaning of water as empowerment is made clear in their concern for the level of women’s participation in decision-making in the project. They wanted CDI to ensure that women were represented. This is illustrated in the August (2008) mission report:

*The severity of the burden of collecting water these communities walk long distances. We want to hear the voice of the community, in particular the women – as they are the strength of the community. Men have different perspectives, but often men are at the fore-front of the project. The different roles determine the needs and the severity of the need. Women are a key player. Have more women have a say and listen to them more."

The PMU had a major focus on women and held from views of how this project should improve the living conditions of women. This emphasis on women and on children was also noted when looking around the project office facility; photographs on the wall and in promotional material captured the involvement of rural women and children in the various projects around the country. For me, these pictures touch the heart as it shows the difference that these sorts of projects make in the lives of rural communities.
5.2.3 Water contained: Accountability and timeliness

As the donor agency, one of the PMUs main roles was to ensure accountability. At the time the interviews were conducted the project was described as six months behind schedule. As the PMU expatriate engineer told me:

Daga project was commissioned in July, 2008 and was planned to be a six month project. Twelve months later we are still implementing this project.

This is important because it is PMU policy to withdraw any funding that has not been used after the target time-frame is reached. The major outstanding cost elements that the PMU funding covered was the salary of the contracted local engineer and the fuel cost for transporting the material. The August mission report (2008) indicated that even though they were withdrawing the funds, “CDI is fortunate in that they have alternative sources of funds to pay for many of the recurrent costs”. From the outset, the PMU anticipated that this project would be delayed but they went ahead and funded it because of the above. The engineer said:

The contract period was very short, that is, the time expected to be completed. We did know this but we went ahead with the agreement for six months. CDI got the contract right towards the end of Phase 1.

The design of the project had also posed challenges affecting the time-frame and the resources needed.

An interview with the engineer highlighted factors that he felt PMU had to manage to keep the project under control.

None of these factors has more bearing than the other, but they are all things that we feel are contributing majorly to the delay: 1) Local politics amongst the community members. 2) Compensation culture encouraged by the oil company takes up their [reference to community] time 3) Land disagreements 4) the project is not a top priority for the community, other things that take priority. For example a death in the village, they take 37 days of mourning. No-one does anything during that time. 5) NSA – the capacity of this group to motivate and facilitate the community effectively and thoroughly.

Four of the factors that he indicates above are things that happen in the community. It was noted that the PMU expected the building of stakeholder capacity to occur within the timeframe taken to build the facilities. The latter in this case is seen to take longer, and has implications for the infrastructure development and prioritisation of activities. These results indicate the complexity of the context in which PMU intends to achieve the dual goals of building facilities and the capacity of stakeholders to achieve improved health conditions.
5.2.4 Distant water: Geography and organisational structure

Both geography and organisational structure affected the ways in which the PMU distanced itself from the project. Structurally, the PMU relies on the intermediaries such as the NSA and is thus at an organisational distance. This is also reflected in a geographic reality which places the beneficiary community many miles away; as the PMU office is located in Port Moresby. Nonetheless, the PMU staff maintain, to some degree, contact with the beneficiary community through field visits with implementing agencies. It is not always easy to maintain this contact, however. In this case study, for example, to get to the Daga project site one must fly for approximately two hours by plane to Moro (Kutubu) in the Southern Highlands. It is then necessary to travel by road for five to six hours to get to the village. It takes a full day of travel, and costs approximately US$500 per person to get to Daga community. In total the Daga Water and Sanitation Project site was visited four times, each for a maximum period of two days making a total of eight days spent on the site of the project by the PMU office staff since its conception.

These arrangements ‘distance’ the donor from the community. This distance limited the level of PMUs interaction with the community and promoted a focus on building the capacity of the NSA because they were the main vehicle through which the PMU delivered their objectives to improve health in rural communities. As the national community development specialist said:

\[
\text{Everyone is challenged. If the community don’t do their part then CDI is challenged, in turn if CDI don’t do their part then we are challenged. So we try our best to assist as much as possible.}
\]

Despite the organisational and distance issues, the staff were aware of changes that the project was making in the community. They had received feedback that there were fewer cases of water-borne diseases in the villages. They also heard from the women that there was reduced time in collecting water. The teachers and people in the community indicated to them that there was an increased attendance rate of children at school because the children had good showers and meals in the mornings and were not so tied from fetching and walking to water sources to have a bath before coming to school.
5.2.5 Summary

The meanings ascribed by the PMU reflect their intention to put in place facilities and build organisational, institutional and individual capacity to implement a project that would address sanitation concerns in this targeted community. Two main factors are identified as posing challenges for them in this project. The first was their distance physically, structurally and culturally, as they were located in Port Moresby, they depended on the NSA to deliver the project and they were influenced by external cultural perspectives on what this project should achieve in terms of empowerment, sustainability and ownership. Secondly, their interaction with the community and with the project implementation itself was minimal, but critical to having the project implemented in the community.

5.3 Implementing agency perspectives

The CDI Foundation was the NSA or implementing agency to whom the PMU provided funding for the Daga project. Unlike the PMU, all the staff that worked for CDI were local. Furthermore, through its field facilities it was physically located near the community. The facilities were located at Kutubu at the Moro oil company base camp five hours drive from Daga community, with staff that are based there for a period of six weeks on site rotation with three week breaks. This is highlighted in figure 3.3 in Chapter 3. This facility gave them access to the remote villages and vice versa. This field operation was supported by an office in Port Moresby who maintained contact with donors such as the PMU. Moreover, they had been working in the Kutubu area since 2001 and with the Daga community since 2004 implementing a wide range of education, agriculture, skills training such as cooking, sewing and governance programmes. These characteristics had made them the ideal NSA to access funds from the PMU.

In their role as facilitators CDI staff visit the two villages quite regularly up to three times per week. During the interviews they highlighted their awareness of the communities schedule and how they try to fit within this. As the public health officer said:

_Daga villages are some of the few villages that still practise Monday council work day^{13}. They are used to community work. Saturdays they have meetings, because they are free. Most meetings are held on this day. They do awareness on what needs to be done, examine progress and discuss issues affecting their community. They also talk about the_

^{13} Council day is a day allocated for the community to provide their labour to the Councillor to carry out some form of community work.
water project. Before Saturday was a day for court case hearing only but now this has changed. They develop their own plans on how to work. At their meetings they are told what work is not yet finished. The women talk too. We attend this meetings to contribute to their work-plans and provide updates to them.

When describing the role of CDI the planning officer said the following to make the distinction between CDI’s role and that of PMU:

CDI’s focus is helping to identify the need and not necessarily to provide the means, but to help the community to organise itself to be able to address this need. CDI itself did not have the funds to address this need. When the EU funding program became available, both CDI and the community worked together to compile the proposal that was presented based on early work together.

Adding further to the description of CDI’s role in the project the finance manager said:

CDI’s role is awareness and getting the community to do their planning. If there wasn’t the EU programme, we may have looked at other options to address this need.

Thus CDI played the intermediary role in this relationship. The community had a need, the donor agency had funding, and CDI was able to provide a link between the two groups to access funds and to facilitate the approaches (the establishment of the WATSEN, the increased participation of women) that the PMU wanted taken within the community. The area coordinator explained that this task was not simple, when he said:

When we talk about the forming of the water committee, there is debate; they tell us the water supply is not yet complete and you want to talk about this. The two councillors have not yet spoken. The women representatives have been identified and they are wives of the leaders in the community as they are seen as the leaders in the community.

Resolving such conflicting interests requires a high level of familiarity and trust between the three stakeholder groups. As the CDI area coordinator pointed out:

Leadership in the community is fluid, and not stable. It’s constantly changing. The first water committee was set up to manage the project. This caused a lot of criticism of them. Somehow, they organise themselves to work. Our liaison is happening with the councillors. At different stages we have noted different leaders. This also seems to be influenced by their skills on a certain task. In the beginning of the project – awareness and explaining the project through the design phase; a church elder played a role in clarifying thinking and helped facilitate our work in the community. In actual implementation there are different players, Damayu councillor has always been there. Two of the old plumbers – specialists in taps worked on the 34 taps. The
CDI as the implementing agency is therefore quite clearly more involved in the development of the water project in place and obviously serves as the intermediary. They occupy a middleman position with some obligation to satisfy both the community and the donor. I now turn to the ways in which their roles and responsibilities influenced the meanings they ascribed to this project. These are: water as sanitation, health and livelihood, water contained, water developing the model community, water as glue for community relations and water as power and agency.

5.3.1 Water as sanitation, health and livelihood

As the agency that put forward the proposal, CDI staff highlighted that their intentions for the project were influenced by their organisational plans, which in turn were also influenced by the community engagement processes that they use in the target communities. As the planning officer explained when asked about why CDI had put together this proposal:

*We rely heavily on the field staff to inform us of community needs. They start to talk about funding for project ideas which they identify in the community. We always think the field staff are correct. In 2004, the community organising process*\(^14\)* was carried out in Daga village and an action plan was developed. Water was identified as one of the issues that needed to be addressed. This led to us to look at ways in which the villages action plan could be implemented. In 2006 the expression of interest form was filled and sent to EU (PMU). The projects we seek funding for also comes back to our programs and plans for the year. As long as it falls within our program mission and goals we seek funding for the project. So this is how the Daga project was identified.*

This highlighted that for CDI the water aspects were the initial issue identified and the reason for why they had developed this proposal, and not the sanitation aspects that were incorporated into the proposal. As the finance manager described:

*Water supply is a basic need for the community. If they requested a public bus then this would not be something we would do. Our focus is on community development. This is not pure health. It is health, convenience and clean water. Water is the need, they walk long distances to get it. This gives them more time to spend on other things, and water to water their gardens.*

\(^14\) This is a series of workshops that are conducted as part of the model village concept which is discussed in Section 5.3.3
Describing the project in relation to the other programmes that CDI had implemented in the area, the health officer said:

*The project is part of our healthy island concept*. This includes healthy living and capacity building, and better living in the community by taking ownership of their own development. It is also part of our sustainable livelihood programme. Thus, it is creating a sustainable livelihood contributing to water supply, which will create healthy living and sustainable livelihood in Daga village.

The Kutubu area coordinator added that this is a project that the community identified and not a need that CDI identified, stressing that CDI was supporting community initiative:

*It’s a project that the community identified themselves. They had this plan to do this a long time ago. This expression of wanting the water project was brought to us by the women. During the wet season, they go a long way to look for water, when it’s dry this is even worse.*

The above also highlights the role that the women played in bringing this need to the attention of CDI. The Kutubu area coordinator also pointed out that he sees that the women and children will be the main beneficiaries from this project.

*Before this it’s the women who spend the most time on water; it’s the women who will benefit, as it has brough the water closer to them, and the children will benefit as well as they can bath closer to the house.*

This focus on improving the livelihoods places an emphasis on the water aspects of the project for CDI staff rather than the sanitation aspects as highlighted by the PMU. These further highlight what this project means to CDI, that it is more than a project to address health conditions in the village. This meaning is influenced by their objectives as well as their interactions with the community.

### 5.3.2 Water contained: accountability and timeliness

CDI also wanted the project to be contained but tried to be more flexible than the PMU. As the facilitating agency, both the CDI field staff and management mentioned concerns with perceptions of the appropriate time frame for this project amongst the three main stakeholder groups. Much of CDI’s contention on this matter lies with the expectations of the donor, as the finance manager indicated:

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15 Healthy Island concept, is a PNG Department of Health concept that NGO’s and churches are helping the Government to implement, aimed at training local people to take care of the general and public health of their communities through improved health practises.
EU has critised us for not meeting the time-frame. They expect us to complete the project on the given time. This has an impact on the relationship with them. They are just giving out money and expecting us to perform miracles. This is not just the EU, it’s the same with CDS (another donor). They are focussed on getting their projects.

The planning officer went on to add:

Donors have their time-frame and they expect us to deliver; they don’t consider the challenges that we face with the community. We do things at the pace of the community so that it can be sustained. The community needs to take ownership of the project. This is very important, if this presentation comes on, it needs to be highlighted that they are interested in reports and timing and receipts and not ensuring that the communities’ participation and ownership.

The finance manager went on to highlight that CDI had to return remaining funds to PMU:

K18, 000 balance was left over from the funds that were given to us. So we had to reimburse the money. So we paid it back and they did not care that this may have implications on the implementation of the project. Because the project is part of the Sustainable Livelihoods programme, so our management team decided that we are continuing to support its implementation and cannot drop it. The donor did not care about the completion of the project. We were confined to their six months funding phase period. Personal opinion is that this is a big issue. The timeframe initially they indicated was set by EU.

The community development officer further expressed that:

This kind of policy suits urban areas, and is not suitable for rural areas because of the literacy and the way they live and do things. Ownership and the expected results of the project will not be met. On this project, the ending is concrete because it’s being slow. The ones they do quickly, they are often not done properly.

The area coordinator added that:

We need to be flexible because these are rural communitieis and all sorts of things happen there. Difficult to complete the project because they take the timeframe differently. For example: digging drain took two days. We estimated in the proposal 2 months. Every issue in the community has their timeframe. Death takes 37 days of mourning.

This indicates that as the facilitating agency CDI had difficulty in managing the different time considerations amongst the community and with the PMU. They recognised that the water project had to be contained, but also knew enough about the area, and the end result of rushing things, and therefore they proceeded with caution. One of the strategies they used to balance the competing expectations of donor and the community was to engage in consultation. Both management and the field staff of CDI highlighted that the development of
the proposal should have been done with more consultation with the community to avoid cost and time over-runs. As the planning coordinator said:

*When we saw the funding was available, we should have involved the community to fully participate in the development of the project. Their role and participation in the project is important.*

The Kutubu area coordinator also noted:

*The proposal needs to take into account what is done in the community. The proposal needs to be done in consultation. The needs of the community we know, but the planning of the project needed to be done with the community and getting the community to do the planning.*

**5.3.3 Water developing the model community**

In addition to the strategies promoted by PMU to set up a WATSEN and promote increased women’s participation in the project, CDI also used this project to promote Daga as a model community, as part of the agency’s ‘model village concept’. Basically, the concept involves identifying a village based on certain strengths within the community. The community then participates in a series of workshops and planning activities facilitated by CDI. As one community development officer described the focus is on the people within the community and their ability to find solutions to issues or needs identified within their own community:

*We have a good community development process. It helps to identify local resources and has added value to these people within the community. It helps them to reflect on their human resources within the community.*

The strengths or capacities identified within the community are used by the agency to work with the community to address their needs. Their achievements are modelled within the village and to surrounding communities to demonstrate what can be accomplished rather than by just raising awareness.

The Daga community was selected to be the community that CDI would work with based on its past performance on smaller CDI projects. Members of the community took initiative for their own development and that it had key players (community organisers) that took the lead and did not depend on CDI staff to organize their community. As described by the management staff, it was through this interaction of the different stages of the model village concept that the need to address water supply issues in the community was identified. The finance manager said:
It was the CB (Capacity Building) Program, through their village assessment that this project was identified.

This indicates that Daga community was not a community that needed more improved health conditions than other communities in the area. The selection of Daga was based on its participation in CDI’s model village concept that reflected that it was a model village that could be supported to implement a water project. As the field operations manager and public officer said respectively:

This kind of project we are confident they can do this because we have close contact with them. Through this relationship and the things they have done in the past, there was already belief that they can do this. Our role has been motivation based on this.

This project has involved the community and they made their contributions to it. They have their own technical people within the community which they used to implement the project.

Furthermore, as the field coordinator highlighted, the community needed to be able to have the capacity to meet the PMU requirement to make a 10 per cent community contribution to the project.

The community had to make a 10% contribution. They were able to meet this by raising a total of K6,000 themselves. They also took the initiative to ask Kutubu Special Purposes Authority to provide K40,000 for this project. The condition that was given by KSPA was that Tanuga Community School would also be included in the project design. This was taken into account and so water will also be going down to the school.

The public health officer described how they used this as a model to other surrounding communities:

It’s a big community project. In the history of the village too em nupla project (it’s a new project). Everyone has played a part in the project. Also the surrounding villages are learning, and there is some jealousy. We are not sure, but some people are saying that we one-side on Daga Village. This project has become a status for Daga people, and other communities might think like this. But they are learning from Daga how to work together.

This project was not only a model for the Kutubu area, but was also considered by the health officer as a model for the country:

When the EU Engineer told the community that out of the 150 projects they were funding, this was one of the biggest projects, we were all very happy. After he said this, this was a real motivation for all of us.

KSPA is the authority that manages the Kutubu LLG Special Projects Funds given by the Petroleum project for the Local Level Government of the area.
When I visited CDI was working on completing the project and developing plans to launch the project in December 2009 although, K18,000 of the project was reimbursed to the PMU because the project timeframe had lapsed. CDI was still pursuing the completion of the project by sourcing support from other organisations and from within the community. This project was regarded by CDI as the largest non Joint Venture Partners funded project it has implemented in the community since the organisation started. It is also seen as the result of the years of working with this particular community. They were also proud that the PMU recognised it as the largest project it had funded, as the public health officer said when he told the story of the visit by the PMU Water Engineer. The planning officer added what he felt this meant to the community:

Such projects like this, in the eyes of the community, it’s a big one. To come up with such a project, a member of parliament would fund such projects in our communities. It would be a dream forever. Like in this case it’s because of CDI that this water supply is in place.

The finance manager added:

Looking at the size of the project, independently as a community they would not be able to do this as a community alone. The total budget of this project is over K400,000, this is more than the CDI SL Programme budget, so we could not have done it either. The initial idea was a small project, but because the donor was available, it has become this big. If it wasn’t for CDI it would be a politician or a landowner company. There will be a champion for the community to realize their dream.

Thus, modelling concepts through projects was a major strategy for CDI to work with communities. This project was indeed a model that they were using to enhance their objectives of community development and mobilisation. This illustrates that apart from addressing basic community needs identified within the community, this project intended to model certain concepts of development that others could imitate as good community development practices. Thus the selection of Daga was not based on their greater need for water in comparison to other surrounding communities, but was instead due to their ability to implement this project successfully as a model community development project; whose glory reflects well on CDI.

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17 The Joint Venture Partners is the group of companies that operate the PNG Kutubu Oil Development project. They are the primary donors of CDI. This funding from the EU was outside of the core operating funds from the JVP to CDI.

18 This is one of CDI’s sector programmes called the Sustainable Livelihoods programme.
5.3.4 Water as the glue for community relations

My observations suggested that CDI’s relationship with the Daga Community has become very strong. The Daga Community prepares food for the staff when they come to the village, and accommodates them for free in their homes. This is a different reception than they initially received. The following quotations from field staff indicate the changing relationship of CDI staff with the community through the course of implementing this project. The agriculture officer said:

They don’t see CDI as wok-man (workers), they see us as part of their family.

And the health officer added:

Taim mipela go (when we go to the community), ol community when they see CDI people they feel happy.

The staff highlighted that one of the contributing factors to this was community ownership. The Kutubu area coordinator said the following to illustrate further that because of this ownership, they do not see CDI as taking responsibility for compensation or other incidents that they would easily depend on an external agency to address when he said:

It’s also about the number of people working; it’s a clear indication of people taking ownership; they don’t complain about when they get hurt, they just tell us about it; usually this would result in compensation.

He further added that staff also got their motivation from the community:

When they don’t work, you too will feel like giving up to go and see them. You know they are capable when they don’t do this.

5.3.5 Water as power and agency

To gain insight into other groups that CDI field staff saw contributing to the implementation of this project, a Venn diagram exercise was carried out. The exercise helped to identify specifically who they saw as key stakeholders and compare their interests, power and involvement in the project. Table 5.1 summarises the description of the stakeholder input.
Table 5.1 Venn diagram outcomes exercise with CDI field staff

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Stakeholder input</th>
<th>Stakeholder size</th>
<th>Power size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daga community</td>
<td>Beneficiaries, owners of the project. Funding and labour</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>CDI</td>
<td>Facilitation of the project implementenation and transportation</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>EU</td>
<td>Funded the project</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>KSPA</td>
<td>Funding part of the community contribution</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Kabugi ECPNG Church</td>
<td>Looked after the material that was stored in the community</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>Pimaga Rural Hospital</td>
<td>Providing infor for monitoring &amp; project proposal</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Kutubu Spice</td>
<td>Timber supplier</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Plum Trade</td>
<td>Suppliers of water supply material</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Mt M Transport</td>
<td>Provided transport services</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Daga community individuals</td>
<td>Provided volunteer skilled labour</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Tanuga Top Up School</td>
<td>Contributed money, beneficiaries, owners, labour</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Tax Credit-Oil Search Ltd</td>
<td>Pipes donation</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>HSE-Oil Search Ltd</td>
<td>Empty drum donation for buildings</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>Researcher</td>
<td>Boosting moral &amp; interest in the project</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Pimaga Govt individuals</td>
<td>Filter, generator baskets, moral support</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>MDC Engineers</td>
<td>Designing of the water facility</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>National Health Dept</td>
<td>Relationship with EU</td>
<td>7</td>
<td>2</td>
</tr>
</tbody>
</table>
Staff identified 16 stakeholder groups which they saw as having some power and stake in this project, which are listed in the first column, with the description of the type of input they had in this project in the next column. These numbers allocated in the last two columns indicate the comparative size of stake and power of each stakeholder group to each other. The number 1 indicates the largest stake and power.

It was interesting to note that CDI allocated 1 to itself and the community indicating they had the largest stake in the project, whilst they allocated 1 to stakeholder groups that had provided funding. These included the Kutubu Special Purposes Authority and the PMU. This indicates that the field staff assessed power in the project according to the amount of funding that was contributed. They also allocated in terms of power, 2 to the National Health Department, the MRDC Engineer and the skilled labour in the community, because of the specialised skills and role they played in the project, although these groups were allocated them very low stake in the project. The diagram they produced indicates that they see there are quite a few stakeholder groups that have low stake in the project but have higher power.

5.3.6 Summary

The meanings ascribed by CDI to the project are similar to the PMU in that they include water as addressing health issues. Their focus though is more on the water aspects of the project than the sanitation, as this seems more relevant to the other livelihood programmes that they are implementing in the area. Similarly, they also ascribe that water is to be contained, but with more flexibility in terms of timeframe and costs than PMU allocates. Furthermore, to PMUs intention to build the capacity of the stakeholder groups to manage the project outcomes sustainably, CDI also ascribes that the project has strengthened their model village concept, their relationship with the community and has created power and agency, that they need to manage in order to implement this project.
5.4 Beneficiary community perspectives

Of the three stakeholder groups whose perspectives this Chapter presents, the beneficiary community’s was the most difficult to compose. This is primarily due to the many voices that needed to be taken into consideration in telling this story; it reflects the diverse nature of the beneficiary group. Although described as a single community, the perspectives amongst different actors within the community are not necessarily as homogenous as those of the actors within the external agencies previously examined. As typically found in a community, Daga comprises people from different age groups and gender affiliations. Furthermore, there is also an array of traditional and modern institutions that exist within the community. These factors influence the different roles and responsibilities that actors have within the community, which in turn, influence their participation in and perspective of this project.

Along with this diversity of actors and institutions was also the underlying factor that change is constantly happening in the community. Like many rural traditional communities in Papua New Guinea, these villages also face many changes taking place in their lives. Their traditional life-style of depending on their forests, gardens, creeks and each other is rapidly disappearing. One of the main observed causes of change told to me was the influence by interactions with external agencies. The main external agencies referred to were the church, government, non-government organisations and the Petroleum Development Project operating in the Kutubu area. It was difficult to distil the changes ascribed to water in isolation of all the other changes that were occurring in the community. The changes that could be ascribed to water seemed to dissolve into the community over time. The results presented here focus on the meanings of the water project within the community.

5.4.1 Water as sanitation and changes to peoples daily lives and roles

This water project for the donor was a means to get to sanitation, whilst for CDI it was the means to get to improved rural livelihood, that is, a combination of health and sanitation. In comparison, for the community this project was more about improved health through changes in daily activities of how they sourced water and allocated responsibilities around sourcing water. The results indicate different implications for men and women, as discussed in the background section, like most parts of rural PNG, sourcing water was primarily the responsibility of the women.
Change for women

The women highlighted that the project has really made a difference in their responsibility to have water in their homes. They mentioned, in particular, the long distances they had to walk to fetch water. The vice-chairman of the Oro’o Women’s Group and wife of a community leader who works for the oil company said:

Before, we used to do a lot of work in carrying water a long way from the mountain. Now the water is right at our door-step and this has changed. When we used to get water, we also had to collect firewood and bamboo and we would carry the water in front of us. There was a little tank at the church which supplied both Ahu-a’s, so we used to go to the church; now it’s the dry season and we still have water available. Water is here and even at night I can go and get water.

Four women members of the Oro Women’s Group described that fetching water was their main responsibility and how this has changed for them since the project has come in. A mother of six children said:

When we used to go to wash our sago and return we would not drink water. We would not wash our plates and cups; we would just go to sleep. Now we have brought the water right into our village. We can even boil the water and wash. Even if it’s late at night, we stand by the tap. Our children too, they can get water, and they can wash whenever they want to.

Furthermore, a female member of the Daga theatre group said:

Our children have been dying because of no good water. The men don’t worry about water. It is our work, but now we can rest a little.

Another mother expressed her gratitude saying:

Everything is up in the mountains – we used to carry everything up, sometimes we drop the water on our way down, and there is no way to go back. The tank has been part of the church so this was still difficult but now we have water in our own backyard. Men – they do not worry too much about water; but us mothers, we have to worry about children, clothes, plates and then so we have to climb up the mountain. Now ‘mi stap long high feelings’ I am very happy and I say thank you so many times.

A young woman who is not married said the following:

We still go to the mountain to collect firewood and bamboo and make gardens or paitim saksak (make sago), but we can drink water there, and there is no need to carry the water back.

A young female mother said:

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19 The women’s group in Damayu village.
20 Discussed in background chapter 3. The Ahu-a is the large central house that sits in the middle of the Kanemoa’s, traditionally occupied by male members of the community only.
21 Local drama group made up of actors from both Damayu and Fiwaga.
Our life is good. Instead of going down to Wara Sura to wash ourselves, our plates and clothes, the water has come to us. It’s easier to get water to cook food and to water our gardens too.

Thus, the project has brought about significant change to the responsibilities of women as water providers to the home, which in turn can be seen as improvement to their health. The following is a summary of what was presented by elderly women when I asked a group of them to construct a map of the past and a map of the future to highlight some of the changes that are happening in their community. She said:

What we have drawn here is our life before. The Ahu-a was there for the men, and we women used to stay in the Kanemo-a. We used to cook for the men. We would follow Wara Sura, but never wash in it. We did not shower we would just wipe ourselves with leaves. We used leaves to rub ourselves when we finished making sago. We would sing and tell the sun to wait until we had finished making our sago. We did not all go and make sago at the same time. Some of us would make sago, others would make garden and others would collect firewood or go fishing. When we returned to the village, we would combine all the things we brought and feed the men when they called out.

There was a place for us to give birth. When the children died, many of them died, we would put them in a bilum and take them to the place where the dead were put. The toilet place was just two posts. We used old tapa cloths to wrap babies and to wipe them. Tapa cloth was used as a blanket and a towel. When the child is born, only the women will look after them until they walk, then they can go to their father. It was forbidden for women to go up to the Ahu-a for nothing. The women used to make the firewood house. Men make the Ahu-a and the Kanemo-a and do the hunting. We would fetch water from Wara Sura.

The women must always have water to fill up, when the men call out for water. The women feed the old men and women in the village and they also give them the type of firewood that will last a long time, because they are too old to collect or add more firewood. The women look after the pig, but the man will kill it. The men get their big name from us. When its time for bride-price and compensation we look to the men. We don’t go straight into the Ahu-a and put our share. We give it to the men and then take it up and give to the other men in the Ahu-a. When we garden, we make very small gardens. We did not cut down everything like they do now. The krosako and pineapple fruit, the missionaries and the road brought these into our village. Our main job was to look after the pig and the children. We have medicine to help the pigs stay well, and with children, we talk to the leaves and this helps the growth of our children. When a woman’s husband dies, the sister of the husband will piss into black charcoal and they will rub it all over the woman. They will tell her, ‘Your husband is dead so you will feel this pain’. The man’s brothers will

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22 Explained in chapter 3, the Kanemo-a are where the women lived in the traditional arrangement of the village.
kill a pig, and other relatives will also pay giligili (shells) to the women.

Now we have road, and our houses are not centred round the Ahu-a. Our water supply is right in the village. We have trade stores, and we are growing rice and other crops as well. There is much buying and selling. Now we can go inside the Ahu-a because of Christianity which allows women to go into the Ahu-a. We now have large population, and our children go to school. When they drop out, they come back here."

This summarised a collective view of the women that participated in the village mapping exercise. It tells of the life of the women in the past and how the water project has changed their everyday lives.

Change for men

The men in the community also identified changes that were happening in their community, as the a male ward committee member described:

There is a holder made of strong rope behind the sleeping place for each men where their bamboo of water is stored. The bamboo is stuck into this. The work of the women is to provide their husband, father or brother with bamboos of water that they put here.

He further added:

The men’s spirit is high when he has water in his holder. It is the women’s job to get water, sago and firewood. The men cut the sago down, meet visitors and engage in tribal fighting. The women do not do this.

He went on to add that this is changed now by saying:

Man sits in the Ahu-a and now the water has come close. The children can get their own water and so can we. Our clothes and our houses do not have dust now. We wash ourselves and do not drink dirty water anymore. The old people would not move around because they felt dirty. Now you see them walking around.

An old man who held a walking stick, hearing that I was doing my research on the water project, came to visit me. He came particularly to show me that he was walking around now and showed me his clothes saying how clean they were now, and that his feet were really clean.

Similar to the women, the male leaders of the community, which included the councillor and male committee members, church elders, clan leaders and headman of the Ahu-a constructed a map from the men’s perspective of the village in the past and the present. The following is
the conclusion presented by the chairman of the Kutubu Foi Cultural Group of their discussion:

*The population has increased; the number of trees has decreased; houses have increased and there are more modern houses with iron roofs. The Ahu-a is much larger now and has 11 fire-places on one side and 17 haus-meri’s. Now we have a church which we did not have before. Traditional dressing has changed; and now there is no tribal fighting. There are also a lot of people getting educated outside of the community and coming in. We now no longer put our dead people on the bed to rot and then burn them; now we put them in coffins and bury them. Our village also has many stores; market; school and sports fields and now we are building the water supply.*

The description from the men is more general about the changes in the community and does not reflect so much on how the project has changed their amount of work compared to the women. Generally, from both groups it can be identified that there is a general awareness of changes happening in the community and an appreciation for the water project. As one headman from Damayu said; “the Water Project has brought in much happiness in the village”. These reflections indicate differences of the use and need for water amongst community members. In general, the women as the providers of water are able to articulate specific ways in which this project is changing their living, whilst the men notice broader changes that are happening. In general the members of the community were able to link the project to a diversity of issues in their lives. In comparison with the PMU, the emphasis by the community is more on the water supply aspects of the project than on the sanitation aspects. In general, changes caused by the water project in the community are significant for the women, and do reflect differences in their implications on different gender groups.

### 5.4.2 Water relationships

Daga community members are very good at providing hospitality as I noticed during my time there. I also noticed that CDI staff members are popular in this community. There are often stories about their visits to the village and what they have said that are repeated through the village. Whenever it was known that a staff member of CDI was coming to the village, a meal would be prepared or some fruits would be put aside. Using their traditional systems of relationship building, being hospitable was a necessary part of building relationships so that members in the relationship because interdependent.

This is illustrated in how they describe the relationship between each group or individual and CDI. A Youth Evangelist said:
When CDI first came in, some of the community said, why you are bringing these people in, and there was some argument over whether we bring CDI into the community or not. But this was a small disagreement and is a story of the past.

The councillor’s wife said:

We have company here and the government too but they have not done anything. CDI first came inside our community through Kabugi Women’s Fellowship and it taught us how to sew, this was an eye opener. CDI kam na mipela lukluk liklik. CDI kam givim tingting long mipela.

Kabugi Women’s Fellowship treasurer added:

CDI came inside our community through the Kabugi Women’s program. We have a huge population, and we drink out of one bamboo. This is not good, so we talked about this and wanted to do something about it. We the KWFG put together K50 that is women from Damayu and Fiwaga for a water tank. We also put K10 per head and we also bought food from the village canteen and our gardens and contributed to this work. Even our Pastor worked on this project.

Through the building of this relationship, they mention that they were able to express their need for water. The need they expressed was varied. Some were referring to access, whilst others to quantity and quality. Each group had a different way that they connected with CDI and how they described the need for this water supply.

It was also interesting to notice that they did not specifically see the start of their relationship through the community development series of activities as described by the staff of CDI, but rather through relationships they were forming with individual staff members within CDI and through their participation in CDI activities. This shows that these relationships with external organisations are woven into the story of the community and its development. Thus this is not just a partnership to implement a project, but a relationship that ties CDI and the individuals into a tumbuna story that will be for generations. The definition of the type of relationship that CDI wants to maintain with the community becomes more and more complicated.

5.4.3 Water as power and agency

Some members of the community were also engaged in constructing a Venn diagram to identify how they perceived power and stake.

The outcomes of their discussion are captured in Table 5.2 below.
Table 5.2 Outcomes from community Venn diagram exercise

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Stakeholder input</th>
<th>Stakeholder size</th>
<th>Power size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daga community</td>
<td>Technical skilled labour, labour, money, materials, land, water, stones, food. Are the resource owners.</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>CDI</td>
<td>Technical advise, labour &amp; administrative support</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>EU</td>
<td>Funding money and technical advise</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>KSPA</td>
<td>Contributed to the 10%</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Tanuga Top Up School</td>
<td>Contributed funds and labour</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>OSL</td>
<td>Gave assurance to EU, gave drums and pipes</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>MDC Engineers</td>
<td>Technical advise</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>National Health Dept</td>
<td>Policy direction to EU</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>Southern Highlands Health dept –</td>
<td>Feasibility study done by community before this project</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>water board</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UJV</td>
<td>Spare pipes (galvanished/ poly)</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>LLG</td>
<td>Monday council day get everyone to work</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

Eight of the stakeholder groups identified by the community were also identified by CDI field staff. These are highlighted in the table. The other four stakeholder groups that the community mentioned CDI did not highlight. They saw most of the power and stake in themselves, whilst CDI and the PMU were seen as having lower stake and power in this project. This is an indication of the responsibility and role that they see themselves playing in this project. Comparing the numbers they allocated to CDI and PMU though, they gave CDI higher stake and power, although much of the resource support came from the PMU. This illustrates that they value the physical presence and support more than they do the resources given, which in turn illustrates the value of relationships.

5.4.4 Water as resource

At the general community level, the project is to serve two separate villages within the Daga community. The two villages have a long traditional alliance, and in more modern times also
share other common facilities and institutions such as sports fields, schools and the church. They also combine on many social events such as hosting singsings or forming groups that comprise of membership from both villages such as the Fida Theatre group and the Rakom singing band. It was found that this close knit relationship is managed by key leaders in the village who remind members through the telling of their history, as the village headman from Fiwaga told to me:

*Previously our village was located further away from here. One day a couple came hunting around here at the back of the village. The husband climbed a tree and spotted the area which is now where the Pimaga Government Station stands and saw all this sago. He decided that this is where they wanted to move. They went back to the village and told the others about this location, and so they moved from the old location to where the village stands now. One brother went the other way and set up the Fiwaga Ahu-a whilst the other brother went the other way and set up the Damayu Ahu-a.*

This story reflects the nature of the relationship between the two villages. It likens it to the relationship between two brothers. This relationship it was also observed is maintained by the interdependent nature of institutions and relationships such as through marriage, and the sharing of resources such as land for communal benefit. As a new community resource this project changed the asset base of the community and therefore issues of degrees of ownership began to emerge the groups villages and individuals within the community in general.

The first issue of resource ownership came about when trying to identify the area where the dam would be built and the Southern Cross water holding tank would stand. In Daga, as in many parts of Papua New Guinea, land is held traditional in clan groups. There is an interesting relationship between the clan and the *Ahu-a* that this case highlighted for me, even though I am from Papua New Guinea. The clans are units of resources that make up the Ahu-a. It is within the clan that land is held and into which members of the village are born. The clans contribute their resources to the Ahu-a. Within the clan, there are clan elders who make decisions on how clan land is used and mediate conflicts on behalf of or amongst its members. They also hold the *tumbuna* stories of their clan and how it came to own the land that it does. Within the *Ahu-a*, there are headmen selected to head the *Ahu-a*, coordinate input from the different clans and maintain order within the village.

For this water project, the Ahu-a (members of the community) had to liaise and negotiate with the clans owning the water source in order to build the dam and land needed for the Southern
Cross to stand. The identification of this area was done by the technicians as the Damayu councillor explained:

We talked (Mipela toktok) and then decided that this is where the dam would go. The engineers also contributed to the idea. Our technical advisors decided that we needed a southern cross tank and they told us where it had to go, so we had to sort out the land. We have three people in our community who have experience in doing this sort of plumbing work. They work for Oil Search and so they helped us as they are part of this community. For the taps and other public facilities these are put on public land.

The use of the word mipela, sometimes had me wondering whether the person talking was referring to their role and the institution they were representing or to the community in general. Later, I came to understand that mipela, which means “we or us”, describes the community, the speaker and all that they represent. Interchangeably used, they are stressing the point that whatever this person participates in or says, they are including and doing it for the community. The councillor went further to explain how they convinced the landowners to agree to this project:

There was a bit of a dispute, as the water belongs to two clans in Fiwaga (Daga 2), but we are all going to drink this water so we sorted this out amongst ourselves. Funding for the project also came from different sources as well like EU; CDI; the whole community and KSPA so this helped to minimise the conflict with the clans that own the water source.

One of the clan leaders who did not belong to the clans of the particular land in question further stressed by saying:

This was not a new thing to ask a clan to contribute a piece of their land for a public facility. Many clans in the village had given up their land for public service.

Table 5.3 summarises some of these public facilities in the community that clans have given land for without any claim for compensation or any regular rental income. These stories were also retold in the process of negotiation to manage any conflict that the landowners of the water source may have presented.
Table 5.3  Land donated by clans for public facilities

<table>
<thead>
<tr>
<th>Public Area/Facility</th>
<th>Clan Land</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haus-line – that is the area that</td>
<td>Egadobo &amp; Yadobo</td>
</tr>
<tr>
<td>Kanemoa’s and the Ahua stand</td>
<td></td>
</tr>
<tr>
<td>Toilet/ Shower facilities</td>
<td>Waidobo in Damayu and Orodobo in Fiwaga</td>
</tr>
<tr>
<td>Church</td>
<td>Yadobo of Daga 1 &amp; 2</td>
</tr>
<tr>
<td>Pastor’s House</td>
<td>Egadobo</td>
</tr>
<tr>
<td>Tanuga Primary school</td>
<td>Kuidobo (Damayu) / Yadobo(Fiwaga)</td>
</tr>
<tr>
<td>Pimaga Station</td>
<td>Orodobo (Ibutaba &amp; Fiwaga) and Egadobo of Daga 2 and Waidobo of Daga 1)</td>
</tr>
<tr>
<td>Wara Sura</td>
<td>Egadobo/ Waidobo and Yadobo</td>
</tr>
<tr>
<td>Wara Bubia/ Mubi</td>
<td>Kuidobo</td>
</tr>
<tr>
<td>Sago Patch</td>
<td>Anyone can go there.</td>
</tr>
</tbody>
</table>

The clan leader (G2) demonstrated how these past actions influenced the two landowner clans when he described the role that other clans had in influencing the Yadobo and Orodobo clans from Fiwaga to give this land for community use and how each clan maintains the relationship between each other to ensure that they are all able to contribute their resources to the need of the Ahua:

The water source belongs to two clans in Fiwaga, Yadobo and Orodobo. All of the different clans sat together and agreed to this. All of the clans in these two villages have given up land for public service, for our Ahua and for public projects. There is some grumbling but we will sort this out. This is our problem to solve. We have already talked about this, and if anything comes up, our two Councillors, Headman and the Ward Committees will sort these out. We will sort it out ourselves.

One of the clan leaders for the landowners of the water source and the land where the Southern Cross is added that although there were things that they should rightfully claim compensation for, because they saw the need in the community, they did not pursue these in the customary manner:

I am one of the “papa grauns” owners of the land where the water comes out. Some of our garden places were spoilt and we wanted compensation for this. This is up to them though. We can see that everyone in the village needs this water so we have decided not to do anything.

When I asked for further clarification on who would be responsible for the compensation, another one of the landowning clan leaders said:

We wanted CDI to pay the compensation. We thought CDI would have money to pay for this, but they don’t, so we let this ‘(sting insait lon bel)’ smell inside our stomach.
This expression ‘sting inside lo bel” can mean that it is not completely over, it is still there, but currently they feel cannot do anything about it. Basically, they are saying there is no room for negotiating so we are just letting it rot in our stomach, which indicates that the issue is there and could arise for future negotiation. This is something that will need to be managed and most members of the community seem to be aware of it. They are confident that this can be managed because of the need for this clan to use the water, maintain relations with other clan members and because of their need to use the other public facilities like the school, the church, the Ahu-a area, the road and so forth, that other clans have given for public use. As one of the council committee members pointed out:

If the owners of the water source want to close the water supply project, we will close the school and their children will not attend, or the hospital.

The letting go of the compensation claim also signifies the relationship that they have with CDI and the recognition of the importance they place on this project. I also noted that although this is managed, this project also gives these two clans in Fiwaga a powerful position in terms of what they have given for the benefit of the community. This boosts their community contribution profile, and therefore their status within the leadership structures and places to make decisions.

The second issue of resource ownership was to do with public taps and private taps. The placement of facilities influences the levels of access and therefore usage. The accounts reflected that much of the decision about where the facilities would go was determined by land holding. As one of the ECPNG church elders highlighted:

All the things that everyone needs to access were put in public places so that everyone could use them.

As a community project, it seemed to make sense to members of the community that the main facilities needed to be in public places. This resulted in the placement of the women’s shower block put behind the Kanemo-a near where the women’s delivery house and toilets were, and the men’s shower block at the back end of the Ahu-as. Two public taps were also placed at either end of the Ahu-a. The women’s group also referred to the water committee (although the committee that the PMU wanted to see in place was not in place, the community referred to the Water Committee as those members of the community that were taking the lead in organising the water supply activities) as deciding where the taps would go. This reflected that in some cases the decision was almost automatic, that this is where a facility needed to be placed, and in other cases it was influenced by certain groups that pointed out certain aspects. Further discussion with the women indicated that the women had gone through a member of
the water committee to indicate that they wanted a shower block. This idea was then taken up and resulted in having shower blocks for both men and women.

Observations indicated that although these were public places, residents of the village typically resided in their private homes away from the Ahu-a area. The Ahu-a area could be likened to a community hall area and where old people now mostly resided. During the period I was there I noted that the children seemed to use the women’s facilities more than the women themselves, who preferred to carry buckets to their own homes to have their shower. The elderly men it seemed were the main users of the men’s shower block as they are the main occupants of the Ahua and the Kanemo a in the village.

The main facilities were collectively constructed and individual households were given the flexibility to join hoses to the main hose and supply their areas. Some of the young men in the village raised the concern that supplying water to individual houses could result in a decrease in water pressure. One church elder disagreed and said there was enough pressure to put in more taps, but felt that another Southern Cross needed to be put up. The talk amongst members of the community also seemed to demonstrate the ability of the individuals to pull the hose down to their own area and install the taps. The councillor’s wife and the wife of the councillor’s brother explained to me why their houses did not yet have taps when we went to visit the councillor’s brother at his house down near Wara Sura at the back of the village. The walk took us approximately an hour to get to their place. We had a bath there, washed our clothes and the councillor’s brother’s wife (DXX) apologised to me saying:

*My husband has started talking about pulling the hose down this way, but has also not done this yet, so we are still very much depending on Wara Sura to have bath, for drinking, cooking and washing our cloths. Now it’s okay, when Wara Sura floods this area is difficult to come down to. My husband has said though, we have to let the others that are up in the village to pull the water first because they are further away from Wara Sura.*

The councillor’s wife added:

*Our father is too involved in constructing the public facilities that he has not even built our tap yet. It is very embarrassing when you are staying with us and we don’t have a tap in our yard. I told him, if he does not do anything I will collect the stones needed myself and build the tap.*

This reflected the perception of status emerging around having a tap in a private home. It could be seen that more and more people were planning on mobilising their individual resources so that they could pull the water to their own homes.
As a resource, the issue of sustainability was also discussed. Unlike Wara Sura, this new water facility would need care and maintenance. As a form of new technology, there was also concern with how this would be done because materials to maintain it would need to be purchased. As one council committee member said:

*Yes, this is a resource and it is important that we look after it. The water is coming through rubber, so what can we do? We have this thought.*

During the course of my interview, I found that although many had concerns over the future maintenance of the water supply facility, no real plans were in place. One church elder said:

*The dam is up at the top of the mountain. We human beings made it. When the big rain comes and the current is strong, if the dam is not strong this will give us a big problem. Also the hose is just lying out in the open and not covered. We thought about hiding the hose inside some steel pipes, especially when it crosses wara Sura.*

### 5.4.5 Water as development

When asked how they planned to maintain and sustain this facility the formation of a Water Committee was raised. They mentioned that the CDI staff had mentioned that they needed to get some sort of committee in place to manage this project. The councillor of Damayu added:

*We had a meeting in Daga 1 and set up a water committee and have six people in the committee. Each family will pay K5 per month. This is to help with maintenance or to take taps to other houses. These have not yet been formalised but this is what we said we would do.*

As one church elder said:

*The CDI officer said that for the future of this project, a committee with six representatives from each village should come together and form a committee. We would contribute money and this would help to maintain this facility. We agreed with this idea.*

The treasurer of the Kabugi womens fellowship group ²³ said:

*The water committee will be made up of 6 women and 6 men from each village. They will come together and meet with XXX from CDI when they come around and we discuss what needs to be done.*

And as one of the potential women representatives on the Water Committee said:

*Some rules have been made, so these will need to be formalised. An example is that, people are not to wash at the tap area. When we open the water supply project the rules will become public. The project is not yet complete so we cannot talk.*

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²³ The ECPNG Women’s fellowship group made up of women from both villages.
Another woman (D12) said:

We will contribute K1-2 each and open an account and put this money and we will use this money to fix the taps etc. Its not yet happened yet.; but we will select the committee; Another committee from the one we have now will be selected.

A group of young people that form the Damayu sports group had the following to say about this:

We will contribute within our clans, and get parts, and all the clans will come together and do this.

Another added:

We had our little discussion and decided that we would open an account and deposit money for maintenance. It was agreed that this would be K3 per head. This is what the two haus-lines have agreed to. The money has not yet been put in, but we got together and the councillors said this. CDI was there too and is with us, so we will do what has been said.

The option of having a committee to manage the project did not seem evident. There also seemed to be this idea of a committee but it was not clear how this would be structured and how it would work. This seemed to be all talk at the start of my research. There did not seem to be a committee in place. It was difficult to get names, only descriptions of the type of people it would be composed of and the roles that they would play. The existing group leading the project it seemed would change. The reasons for this were that the management of the project would include raising funds, and managing the concerns raised by the landowners. Towards the end of my stay in the village, I was told that there was some talk of making the Water Committee a sector in the Village Council structure. This was so that it is not operating on its own. It was also explained that this way the village could make money out of this resource, by selling the water supply to residents down at the Pimaga Government Station and also that there was potential to generate electricity from it for the village, as one church elder (D5) said:

We think we could extend the service down to the station, and generate some income to maintain the system that way. They can rent it from us. I can see that we will not receive any other helping from anywhere else. We will need another tank if we are to extend to Pimaga Station.

It seemed that the focus of the community is on completing the project. There are ideas about potential developments in the village arising from this project but at this stage the focus is on the project. There still seems to be a lot of negotiation and postponement for developing a sustainability plan. Despite this there is confidence that the water supply system will be
sustained and will continue to the tumbuna story passed on for generations, as the people are expecting change.

5.4.6 Water reshaping leadership

Trying to understand who the decision makers in the community are and the role that they play in the project proved to be quite difficult. Although there are hierarchies within institutions such as the family household, the Ahu-a, the church and so forth, there does not seem to be a hierarchy between the different institutions within the community about which institution has more power. This was mainly because of the relations between individuals in the different institutions complicated by the multiple roles or the ability of one person to be able to wear several hats in different institutions within the community. This allowed these key individuals to speak from several positions. For example, the village councillor belongs to a clan and is a member of the Ahu-a apart from being the councillor and the chairman of the Tanuga primary school. He also has traditional kinship ties within Damayu and in Fiwaga which gave him certain status. Another example was the secretary of the Kabugi Women’s Fellowship Group, who is also the vice-secretary of the Kutubu Foi Women’s Association, from Orodobo Clan, married to Waidobo, a mother, a daughter and a wife.

These multiple roles allowed people to speak and participate in certain places and not in others. I noticed that there was a constant negotiation and analysis of where it was appropriate to participate, to what degree, and sometimes not negotiating this enough resulted in conflict. Therefore in making decisions, the individual makes it based on their right to make it, and gauge the consent of others that they have the right to make this decision. This not only reflects the lack of homogeneity within a community, but also the complexities why decisions are made in certain ways and by certain people and, unless the knowledge of that network is understood, it will all seem very complicated and difficult to understand. It also reflects that the level of authority and right to make decisions is constantly shifting and being negotiated by different players as they state their right to make the decision. So it is not as simple as the men make all the decisions, or the rich and so forth, but there needs to be a consideration of the whole profile of players and the way that they are connected to each in the past and will be in the future.

This project therefore was also influencing the fluid nature of these leadership structures. Negotiations were ongoing through actions and verbal claims, and endorsement from other members of the community. Three aspects of this project were noticed as changing power structures. The first was the reference to the relationship with CDI by individuals and groups
that brought CDI into the community. For instance when a former headman of Damayu
indicated that it was the community’s theatre group called FIDA, which worked closely with
CDI that caused this water project to come into their community:

Our young people involved in CDI activities were wearing traditional
dress and going around to other villages and places dancing. These
made us angry and confused and wonder why they were doing this.
Traditional dress, dancing and singing is for when we open a new
house or when we are killing a pig for a feast. So it was very
confusing, but now I see that they were doing this to bring the water
supply into the village, this is what they were doing.

The village councillor from Damayu also wanted to show the councils link with CDI to show
their relationship when he said:

We did not look for CDI, XX (a church elder) took the lead in
connecting with CDI and we connected through this to all sorts of
programmes that CDI was doing. Also, we, the councillors, all
attended a workshop at Tubo, this was the first workshop for all the
councillors in the Lake Kutubu LLG so we met CDI here and have
worked with them since.

The Law and Order Committee chairman also highlighted the role of the ward committee in
identifying the need and their role in this project:

We the Law and Order, Education and other Sectors were here. We
have been looking after the people as our population has been
increasing. Water has been a problem. We had a meeting and really
wanted to address this need.

Different women representatives had the following accounts, which also indicated the role
that the women had played in bringing CDI into the community and bringing to its attention
the need for water and the implications this would have on women. There was also a sense of
awareness amongst these women that women were the focus of many of the development
agency’s programmes so they felt that through them this project had come into their
community. They also highlighted their own linkage to the church and like the councillor
indicated the role that the church played in bringing CDI into the community. The Kabugi
women’s treasurer said:

All of us women we are in the Women’s Fellowship Group. We have
programmes to learn how to cook and sew. We wrote to CDI’s women
officer that we are doing this back in 2003. We had a workshop and
this brought CDI into our community. Now this water project has
come up in 2009. It’s been a long time.

A Kabugi women’s group member said:

We have company here and the government too but they have not done
anything. CDI first came inside our community through Kabugi
Women’s Fellowship and it taught us how to sew, this was an eye
These reflect the power that these groups and individuals draw from their association with CDI. There was also evidence of differences in how different members became involved in the project, their levels of participation and the roles that people played. During the Venn diagram session with key leaders in the community, they were also mentioned as very influential in the eventuation of this project. One of the participants said:

*Without the technical input from our local carpenters and plumbers, we would have to spend a lot of money to hire these people from outside. Because we have them within our community we were able to use them and save money.*

It was also noticed that because of their specialised skill and input in the successful implementation of this project, CDI relied on them to assist in taking the lead in the community.

### 5.4.7 Water creating a sense of community

The gravity fed water supply component of the project required much labour from the community. The infrastructure was put in place without any large earth moving equipment, just manual labour by members of the community. It included men, women and children. The working together on it affected the relationships amongst the community contributing to a strengthened sense of community. When I looked at the physical work that went into moving equipment up to the dam site, the digging of the ditches to bring the hoses into the village, the large amount and size of rocks that had to be moved from Wara Sura to the village to build the soak pits and the walls in the village, I appreciated the labour intensity of this project. In my years working in the area, I have not witnessed such a large project implemented by a community so I too was quite overwhelmed by what they have achieved so far. When I first got there, I was given the opportunity to go into the women’s shower block and turned the taps on, and there was water coming out into the hand-basins and the shower blocks. To have this in a remote rural village away from the big urban centres and to know that this community had done all the work I was overwhelmed by what they had accomplished.

Before this water project came to the Damayu and Fiwaga villages, the community relied on Wara Sura, the largest creek running along the back of the village. They also used other smaller creeks around the village and water tanks held by a few in the village. The main tanks that were supposed to be available to the whole community were the two tanks that belonged to the church. Some homes that were able to buy their own tanks would share them with relatives. Most times the church’s tanks and those of relatives would be locked, particularly
during dry season because water was scarce then. So this sense of participation could be seen as the importance of what this water supply meant to them and the changes it would effect in their lives. The facilities have flower gardens made around them, demonstrating the value that is placed on them.

During my time in the community I also felt this sense of community, which made me forego my interview on a Monday council day to participate in working with the community. Typically, before the Water Project, this is the day when the council asks the village people to clean up public places around the village. I know from the past that these two villages are good at observing this community service day, so they continued to use this day as a way to get all members of the community to work on the Water Project tasks. Key leaders would hold a meeting with the CDI staff on Saturday and on Sunday everyone would be briefed in church on the work that needed to be done on Monday. On Monday morning, I noticed everyone from the village turning out and meeting at the foot of the Ahu-a. Here a couple of people began to take the lead and delegate work to others. The men were told that carpenters would work on the men’s shower building. The women’s shower building was completed, so they were tasked to work on the flower bed around the shower block.

Work was delegated by gender groups. As a female, I joined the women to carry out our task to level the ground around the female shower block. The men were working on constructing their shower block because the building was still under construction though all the plumbing work had been completed. Others were pulling down the women’s old toilet block and constructing a new one while a couple of women were clearing the bush around that area. Another group of men was working on levelling out the area where the men’s old toilet block once stood. The toilets had been destroyed by a landslide two weeks ago. Other members, especially the young people, were down at Pimaga Station near the Wara Sura piling stones that the CDI vehicle would come and pick up and take up to the village. Once the CDI vehicle arrived, stones were piled into the vehicle and young people jumped into the back of the Toyota Dyna Truck and came up to the village with the load. They unloaded these stones beside the road at the village at the foot of the Ahu-a and we went down and carried them up. Work finished at 5.00 pm when the sun went down and everyone sat around outside the Ahu-a for a while and talked about the progress of work, shared betel nut, smoke and sago, then slowly started moving to their individual homes.
I noticed the way peer pressure and community pressure was used to make members of the community work. For instance, the initial women that started working started singing or asked the children of their friends where their mother was and the children would run back to the houses and tell their mothers that their friends were looking for them. I also noticed people talking about how it was important to work together, or that CDI people would be coming around to check on us later, or that the people at Fiwaga were doing so much more than we were doing. I was used as a model too, that even though I was not from here I was working. While we were working, a man who works for the Oil Company came over and dropped five containers of cordial for the women. Everyone started cheering and not long after, another man told his wife to bring the bag of rice from their house to be cooked for everyone working. All these were strategies I noticed that the leaders used to encourage others to work, and the participation of the people also motivated the leaders.

Another major contribution that all members made to enable their community to receive this support from the PMU was the 10% financial contribution required by the donor. Interviewed members of the community seemed to indicate that the contribution of labour and resources to this project is part of their role as community members. This was emphasised by the assistant treasurer of the Women’s Group when she said:

*Our haus-line (leaders) tells us what we need to contribute to community work and we do and also tell the mothers to come and work.*

The Women’s Group vice-secretary went on to add:

*We had a meeting and agreed that Monday we would work on the water project. No-one is to do anything else. We would carry stone from the river banks to the road so that the vehicle can bring them up to the village and we would carry them from there to where they have to go. We carry sand too, to block the water to make the dam. We cook to feed the men that are working and we dig the drain and cut the grass. We work from morning until afternoon, and we worked happy because this is our project.*

One of the council committee members further added that although there were disputes like the one with the owners of the water supply:

*We still kept working. When others don’t work, we get cross too, but we keep working, and we would tell those that are not working that we would really like you all to work.*

A young explained why he took part by saying:

*It’s a must, contribute to this project. It is for the development of our community.*
Another said, ‘this is for our village so we do this’. I also noticed that this gave them status over others, as the Culture committee chairman said:

We were last amongst the communities here in Kutubu. We do not receive money from the petroleum project, but we work hard. This is the ‘han-mark’ mark of our hard work.

5.4.8 Water creating vision

This community like many oral communities depends very much on the telling of tumbuna stories (stories passed through generations) to pass on history, knowledge and create meanings within their community. In trying to ascertain what this project meant to the community, I came across much reference to stories and linkages to the past life to appreciate what this project means to these people today and will mean to them in the future as they continue to recite these stories. The telling of these stories is not static; they are not the same story and it is up to the interpreter to make meaning out of the stories, and determine as a member of the community how they will act on the knowledge. Over time, these stories begin to form the basis of knowledge, information and understanding of their society and way of life that is passed to the next generation. As the Kutubu Foi Women’s Association President said:

Our parents told us the tumbuna stori (a stori of an experience that our elders had) about how they came and settled here in Damayu and Fiwaga, and how they built the Ahua. I never saw it, but I have heard the story. Our children and their children will hear the story about this water project and how we built it with our hands.

Meanings of things are also created through these stories, as one of the council committee members pointed out to me. Before this water project, the main source of water supply to the village was the large creek running at the back of the two villages. He (DX) said: “During the wet season, the water is fast flowing and plentiful, but when it dries up in the dry season, we are desperate for water”. He then went on to add that apart from relying on Wara Sura for survival, this water source also held other meanings by saying:

We get our strength from Wara Sura. We call Wara Sura when we go to fight. We sing ‘apa ipu Sura’ which is calling on our God Surawagi – (Papa Wara Sura). It is our belief that Wara Sura gives us power and strength and we run like it towards our enemies reflecting its strength. There is also the story of how our ancestors followed this water and came to settle here.

I realised that this water project has created yet another tumbuna story that will be passed down through the generations providing understanding of the community for its people. It will provide them a sense of history, instil pride and place in them the importance of their culture and their heritage.
Figure 5.1 Women carrying cement bags up to the mountains to construct the dam
(Photo taken by Allan Kealaua, June, 2010)

Figure 5.2 Men at the dam construction site
(Photo taken by Allan Kealaua, June, 2010)
Figure 5.3 Men working on the shower block for men at Damayu village
(Photo taken by author, September, 2010)

Figure 5.4 Women working on levelling the ground around their shower block at Damayu village
(Photo taken by author, September, 2010)
This talk or construction of the tumbuna story also talked about what was to come, as one of the ward committee members said:

_We are expecting other things after this water project such as power. Electricity in our village, so that we can use power generated equipment in our village._

A clan leader also added:

_We are happy with the drinking water, but it would be good too, if we had hot water in the showers._

The women also added their hopes to have electricity now that they have achieved the water project. A widow said:

_Now that we have the water project we are looking at what is next and we are looking at electricity into our homes._

### 5.5 Chapter summary

This Chapter focussed on constructing the perspective of each stakeholder groups story of the water supply and sanitation project in Daga. These results were presented in this way to highlight the meanings that each group ascribes to the project,

The donor agency ascribed three main meanings, water contained, as sanitation and health, and as community empowerment and sustainable development.

The implementing agency ascribed five meanings to the water project. Similar to the PMU they ascribed improvements to health conditions, but a focus more on the sanitation aspects. They also ascribed water as contained, but with more flexibility. They as saw this project as a model water project that they could leverage off, power and agency and as a glue for improved community relations.

The community had the most diverse range of meanings ascribed to the project, These included, water as improved living and health, water building relationships, as power and agency, as a resource, as development, and reshaping leadership within the community. The project was also contributing to a sense of community and creating a vision for the future.
Chapter 6
Diversity of meanings amongst stakeholders: A discussion

6.1 Introduction

This Chapter presents the discussion, which is based on the results in Chapter 5 and aims at addressing the research questions.

The main research question posed is:
*What does this aid funded water development project mean to the three main stakeholder groups?*

For purposes of discussion, this main question was broken down into four specific questions that are dealt with in this discussion.

1. What are the meanings ascribed by the Donor Agency?
2. What are the meanings ascribed by the Implementing Agency?
3. What are the meanings ascribed by the Beneficiary community?
4. How do these meanings compare and contrast?

This study results show this aid funded water and sanitation project had a variety of meanings for each stakeholder group. Fundamentally the project aimed to address a basic need for the human body. As Strang (2005, p. 99) highlights in her work, ‘in a very immediate sense humans share an experience of water as the substance that is most vital to their continued existence’. Moreover, she points out that the ways in which people experience ‘water’ are as diverse as the contexts in which the interactions between water and people occur. This study looked at the meaning of in the context of a water and sanitation project. Although the project was set up to improve health conditions, the interactions of the stakeholders with the project and with each other gave rise to a variety of diverse and fluid meanings that they ascribed to the project.

The following sections discuss the context of each of the stakeholder groups to distil the meanings for the particular group. These meanings are than compared and contrasted to draw lessons that can be learned from this situation.
6.2 Meanings ascribed by donor agency

The PMU was organisationally, culturally and physically the furthest from the site although their role was seen as pivotal because they made the funds available for this project. There were however three main meanings that they ascribed to this project. Foremost, the objective of the project for them was primarily aimed at improved sanitation for the beneficiary community. Secondly, their objective also entailed broader goals of empowerment and capacity building of stakeholders, and sustainability of project outcomes. Thirdly budget and timeframe constraints highlighted organisational values, whilst organisational culture and geographical arrangements had implications on the meanings they ascribed. These are elaborated upon below.

Water as sanitation

The Daga Water Supply and Sanitation project to the PMU was implemented for the purposes of improving the health conditions in this community. This was the primary priority of the organisation. To achieve improved health, the staff indicated that the focus of the project had to be the sanitation aspects of the project. These included the construction of the pit latrines and the health and education awareness programmes, verses the construction of the water facilities. The focus on sanitation would have a direct and logical link to improved health.

They found the approach taken in Daga, and in other projects they were funding in PNG focussed more on the water facility components and not enough emphasis was being placed on the sanitation aspects. They ascribed this focus to the process used by implementing agencies to select communities. This process they felt needed improvement so that projects were proposed based on health indicators rather than the current practices implementing agencies were using. This mainly involved selecting communities based on familiarity and relationship. This meaning had an influence on how they assessed whether projects would be successful or not. If not enough emphasis was placed on the sanitation aspects, they concluded that the project would not achieve the objectives of improved health.

Water as community empowerment and sustainability

To the PMU the Daga project not only presented technical challenges due to its size and scope, it also posed challenges relating to their broader objectives of empowerment of stakeholders and sustainability of the project over time. The concern was that, due to large population size there would be major impediments with mobilising and involving all members
of the community in the project. These concerns influenced their perception of the role of that the implementing agency had to play in this project.

There were three main approaches the PMU promoted through their engagement with CDI, so that they could contribute to community empowerment and project sustainability. These included the 10% community contribution that was to be submitted with the proposal, the formation of a Water and Sanitation Committee to manage and monitor the project and the promotion of women in decision making (i.e. gender equality).

The PMU recognised the motivation of the community through the 10% contribution made to the project at the start. They felt though that this motivation was not adequately facilitated by CDI during the course of implementation. It is drawn from this study that this initial motivation indicated by the 10% contribution by the community for the project assumed that they (the community) were interested in the sanitation aspects. As the project played out in its implementation, they found that this motivation was not as they expected. They felt that the manner in which the implementing agency was facilitating the project was causing this lack of motivation. The indicators they highlighted that reflected this, was the tendency to leave decision making to the community and its traditional structures which mainly included men and not women. They also felt that the sustainability of the project was compromised by not having a WATSEN committee established.

**Water contained: accountability and timeliness**

Aside from focussing on building the capacity of CDI to achieve the broad goals of sustainability and empowerment, the PMU also held CDI accountable for the achievement of these goals. One of the primary issues raised by the PMU was concerns about the timeframe it had taken to implement this project. Maintaining their principles of accountability, funds unexpended during the set timeframe were withdrawn from CDI to demonstrate that accountability was a critical component in project implementation. This posed challenges as the timeframe between the PMU and the community that CDI had to facilitate were different. This also reflected that the PMU felt that the building of facilities and the capacity of the implementing agency and the community could be achieved within a period of six months.
6.3 Meanings ascribed by implementing agency

CDI played an intermediary role in this project and had a much closer working relationship with the community. Their role entailed, facilitating and managing the community and the process to implement the project, and being accountable to the donor. Their involvement with the water project was mainly to ensure that it was implemented in a sustainable and timely manner with the resources allocated. The meanings they ascribed concerned a broader based improvement to the livelihood of Daga community, thus a broader timeframe for building human capacity. They had started on the process of building human capacity as far back as 2004. Furthermore, in this particular project, they were focussed on modelling the community’s achievements, resulting in strengthened relations, and the facilitation of power between the community and the PMU. The meanings they ascribed are discussed below.

Water as sanitation and improved livelihood

CDI saw this project as part of the other programmes that their organisation was already carrying out in the area to assist in sustainable rural development in these communities that are affected by the petroleum resource development project. Thus, the project meant more than improving health conditions in the community. It was part of other development programmes they were implementing in the area.

Their view was also influenced by what they witnessed in the community. They saw aspects of community ownership and interest by the investments that members were making in terms of their unskilled and skilled labour and other resources to the project. The quality of the resources community members were contributing, the number and wide representation of community members that were participating in the project, were an indication of community commitment and resolve. They saw men, women, youths and even children participating in the project. Therefore their focus on project activities related to sanitation focussed on these elements of community participation in the improvement of their livelihood.

Water contained: accountability and timeliness

As the intermediary agency, CDI played a dual role of facilitating the community and being accountable to the PMU. One of the major concerns in this project that CDI had was with the project timeframe. They felt that the timeframe allocated to this project was not considerate of the pace at which the community worked, or their concept of time. To CDI these considerations were critical to promoting community ownership.
Internally, CDI felt they could have done more planning with the community upfront. This would have ensured the full participation of all members in the development of the proposal, rather than trying to engage community participation in the course of implementation. Thus CDI was managing infrastructure and the perception of what is accountable and allocation of priorities. For the PMU, the timeframe was clear, whilst for the community the priority was found to be influenced by whatever else was happening in the community.

**Model water project and community**
This project is part of the community modelling concept that CDI has been implementing in the target area. The model village concept is based on identifying communities with the ability to mobilise and implement community projects. Similar to the concerns that PMU had about the selection of the community, Daga community was chosen on the basis that it is a model village for CDI rather than on the basis of needs. The requirements of this project meant that the community selected needed to be able to implement this project and to assist CDI achieve the goals set.

**Water as the glue for community relations**
This project has contributed to a strengthened relationship formed between the staff of CDI and the community. The experience of implementing this project together, and the challenges they have overcome in constructing a rare project to be found in remote rural areas such as this has created a special relationship.

**Water as power and agency**
This project was a significant project to CDI for two main reasons. The first was that this was the largest non-petroleum funded project that CDI had facilitated. The second reason was that it was a large scale high status project. Therefore, these had a significant bearing on the reputation of the organisation. When the PMU discontinued funding before project completion, CDI sourced additional funds to ensure that the project was completed. They also intend to use the lessons learned from this project for their next submission. As shown in the Venn diagram outcomes in Chapter five, CDI field staff saw that the power in this project lay with the PMU, because of the funds they provided to this project. CDI field staff felt they could not have achieved the work that they had achieved in the community without the input of resources from the PMU. They reported to the PMU and not to the community, they were held accountable by the PMU and so this is where they saw the power, even though PMU
pulled part of the funding and it was CDI and the community that had to source additional funds to complete the project.

### 6.4 Meanings ascribed by beneficiary community

Drawing out the variety of meanings from the diversity of voices and actors within the community resulted in the identification of six main meanings that are ascribed to the project. They include meaning of the project within their daily domestic lives, its meaning as a resource, and therefore its influence on power and sense of community and for future community achievements. Meanings ascribed to it also influenced the way that they worked with the two external agencies. These meanings are discussed below.

**Water as sanitation and change to daily lives and roles**

Community members pointed to other ways that the new source of water was changing their daily lives. These were particularly how they interacted with water for consumption; bathing and carrying out other household chores like washing of clothes and plates, watering their gardens, as well as their ability to carry out small scale business and agriculture activities like the baking of scones to sell at the market, vegetable planting and construction of fish ponds closer to their homes. The amount of time and effort members of the community spent in sourcing water for consumption had changed, particularly for the women. The task was now less labour intensive and time consuming with the new taps located right in the village versus walking long distances to carry it back to their homes. Men and children also became less dependent on women to source water for them as they could easily access it themselves. Thus these initial changes to the way people interacted with the traditional water sources made this community perceive this project as an important and a good thing that was happening in their community. It meant that work associated with sourcing water would not be as hard; life would be made easier by having this new water source that brought the water right into their village through pipes.

Consequently, at a basic and general domestic level, the project is beneficial to the members of the community. These changes though are subtle as they integrate with other changes happening in the community. It has improved health conditions, time spent on sourcing water, increased domestic agriculture and livestock production, and small scale income generating options.
Water as power and agency
The manner of working with the external agencies from the community’s perspective was also an indication of what this project meant to them. Key individuals within the community were not just partnering with these agencies for the implementation of this project, but engaging as they would with leaders from another tribe or village to build an alliance. They saw themselves as equals and not as helpless rural communities in need of support from these entities. They had something to offer and the resource support and attention their community received from these groups was because of what they offered. They recognised that CDI and the PMU would not be able to accomplish their goals if Daga community could not implement this project, as indicated during the Venn diagram session. They did not participate in this project as a hopeless needy community, but as a community negotiating and finding ways to get resources that it needed through relationship building.

Water as a resource
As a resource that is sought for the above reasons, the gravity-fed water supply system that feeds water through pipes and out through taps and into shower blocks changed the way people captured or sourced water in this community. When the water ran through creeks, rivers and fell from the sky, it was up to individuals, households, clans and community groups to identify ways and invest resources to capture this substance as it came into contact with them. For instance, Wara Sura that runs behind the village did not belong in its entirety to one clan. As it passed through each clans land they claimed the part of it that passed through their land. The construction of this project required the members of the community and the two external agencies to determine how it flowed or came into their village by determining where the dam, taps and shower blocks would be situated. With the more traditional and natural sources of water supply highlighted earlier, the people structured themselves according to how the water flowed. This new system is changing the status of access amongst community members in two ways.

The first is related to landownership. The dam and the catchment tank are placed on land that belongs principally to two clans. This location was determined by engineers that surveyed the area. During the implementation of the project these clans had raised claims for compensation raising the issue of resource ownership. Even though it is a community project and all community members contributed resources, the landowners felt that they should be compensated because of the restrictions that they now had that their land was taken from them.
for this project. The multiple stakeholder input into the project and the contributions that other clans have made to common community facilities like the schools and the church in the past helped manage this issue. It is clear though from interviews that this is an issue that will continue to recur over time.

The second issue is that, although communal taps and showers have been constructed in public areas, individual households with enough financial and labour resources are joining pipes to the main pipe and pulling water to their homes. This is escalated by a growing sense of prestige associated with having a tap in their homes. There are mixed notions about this. Some members of the community feel that this is not good because it will lessen the water pressure, whilst others argue that this will not happen. They feel that those that can afford it should have the right to do this.

Although a community project, there is already evidence of differences in access and usage of the water amongst community members. This is because the project is providing a resource that is typically contested for. Landowners of the area where the dam and the Southern Cross tank are placed claim their increased stake and status in the project over others. Whilst, those that are able to invest in joining pipes to the main pipe and construct taps sourcing water to their own homes are increasing their access, usage and status over others.

Furthermore, both these issues raise the concern of resource sustainability. Unlike creeks, rivers and rainfall, this facility will need money to be available to the community over the long term. Two main ideas that arose to address this concern were that the community contributing money for the service, and to supply water to Pimaga station residents and generate income that would help to maintain the water system. The former raised further concerns on whether all should pay the same rate or a user pay system put into place. In addition, the PMU suggestion to establish a water committee to manage issues of sustainability was not yet put into place. This illustrates the level of discussion it takes to make decisions regarding the formation of new institutions within the community.

**Water reshaping leadership**

Leadership is attained by competition on levels of influence and ability to bring resources into the community and to be able to demonstrate skills that are unique and useful to the community. Although all members of the community contributed to some extent labour and other resources to the construction of the water supply and sanitation facilities, not all
contributions were found to be weighed the same. Those members that contributed skilled labour and maintained initial and continued negotiations with the donor and the implementing agency have gained increased status within the leadership structures of their community because of their unique and skilled contributions. These include men and women members of the community. This project was therefore becoming a force to once again change power structures.

**Water creating a sense of community**

Although the project contributed to creating fragmentation within the community, it also created a sense of community by requiring demonstrated, concerted and intensive labour and resource input from community members to produce a physical structure that surrounding communities and other stakeholders can see. This input was found to be driven not only by an awareness of what members individually would get out of the project, but also by a sense of community pride. There was also a sense of peer pressure applied to provide some competition in creating the sense of contribution to the project amongst members.

Members of Daga community have a general sense of contributing to public good of their community. This project has elevated their community’s reputation amongst other communities. Daga would be known as the first community in Kutubu that had a gravity fed water supply system because of their hard work collectively. At the national level, they were also aware that their project was the largest funded by the PMU in phase one of the Rural Water Supply and Sanitation Programme in the country. Its size and presence is quickly becoming a symbol of pride that lifts the identity of the members, and their desire to affiliate to a successful community identity. It reflected the strength of the community in a visible manner, whilst the social experience of carrying it out contributed to an increased sense of community amongst the members despite some differences.

**Water creating a vision for future community achievements**

The main traditional mechanism for planning in Daga was found to be the telling of stories. These stories entail past accomplishments of the community which are linked to present accomplishments and provide a vision for the future. The Daga Water Supply and Sanitation project is becoming a *tumbuna* story that current voices are constructing to pass onto the next generation. It tells of how this project is linked to past actions, how they, in the contemporary context, were able to implement this project. It tells of how the people worked together to carry stones up to the hills behind the village and construct the dam that brings water right
into the village through pipes to taps. The telling of this story is already instilling in members a sense of accomplishment and desire to build upon this experience to accomplish more within their community. The expressed desire to have electricity is an illustration of this. The question was often posed, what’s next for us to do or a straight out statement, that we can now bring electricity into our village, now that we have water. Thus, the project is contributing to a vision for future community achievements.
This also illustrates the view held in the community that this is not a project that is just implemented within a time-frame and ends. It is part of an ongoing process of a story that continues to build, shape and change this community.

6.5 A reflection on stakeholder meanings

Basically, there were three sets of meanings given three different organisational cultures. As the organisations or stakeholder groups interacted in the course of implementing this project, they created distinct but transferable fluid meanings between each other. This was particularly evident between the community and the implementing agency due to their close association. However, the mutually dependent relationship between the three stakeholders makes it difficult to say in one case study whether one set of meanings is more valid than another.

By way of a comparative analysis this section of the discussion focuses on highlighting key issues arising from comparing and contrasting the different meanings ascribed by stakeholders. These are discussed below.

6.5.1 Need for water shapes relations

The three stakeholder groups had clear roles that they played in implementing this project. The meanings they ascribed also shaped their roles and the nature of their relationship with each other. The PMU needed to provide funds to communities in order to achieve its goal to improve health conditions in PNG. The mechanism through which they could do this was the NSAs. The NSAs in turn needed donors in order to be able to support communities to implement the plans they developed with communities. Furthermore, the NSAs could only work with communities they were familiar with and had confidence that they could implement the project. Therefore, the selection of the community was not necessarily based on a comparison of needs, but more so, based on the capacity of the community. The community has many needs and is undergoing many changes, which pose challenges within
the community. Its ability to access resources is limited and therefore it is important to maintain relations with external agencies to source needed resources to manage these changes happening in their community. They therefore used the water project as a mechanism to draw external support.

Thus the common meanings of water that drew these three stakeholders together were:

1. The donor saw this need from the perspective of the resource provider. This influenced the specific meanings that they ascribed to this project. They were providing the resource over a finite period of time, principally to improve health conditions.

2. The community saw this need from the perspective of the beneficiary, that is, the user and the owner ultimately of the project. As a heterogeneous group of actors a diverse range of uses and ownership issues emerged in the course of implementing this project. This created a multiple range of meanings of the project.

3. As the intermediary agency, the NSA saw the need of both the community and the donor. This required a consideration for the needs ascribed by the donor and the community. This role required submission to the requirements of the donor, and also to the priorities and the manner in which the community wanted the project implemented. This resulted in the fluidity of the meanings that were played out. It allowed the project to maintain the meanings ascribed by both parties, but also allowed these meanings to become fluid. In other words, they co-existed and integrated. For example, the meaning of the project as sanitation was expanded to include improvements in other areas, such as in agriculture, education and community contribution.

These meanings contributed to misunderstandings between the groups, for instance the difference in timeframe. The community had a longer timeframe, as their priorities were constantly shifting because of the many other things that were happening in their community, whilst, the PMU had a clear understanding of the project. Recognising that they had a short timeframe to implement the project, they wanted the WATSEN in place at the beginning, so that there was an institutional framework in the community that could manage the project in the longer term. CDI found this difficult to do, as the communities approach seemed to focus on getting the facility constructed first, than focusing on sorting out how the project would be
managed. This was a new project to both the community and CDI, and therefore it seemed more important to realise the project before they could discuss its management. CDI felt that more time allocated to planning at the start and involvement of the wider community could have minimised this difference in timeframe.

It can be seen though that the community’s need for the water project will keep expanding, even after the two agencies depart from the scene. Thus, their timeframe will ultimately be different from both agencies. As the PMU persisted, it is important to have institutional support for the longer term, but the creation of a new institution within the project timeframe was found in this case to be more challenging. Other options could be considered in line with what CDI was doing. These included looking at the local level government council, the church and other groups in the area.

6.5.2 Clear to murky waters

This preceding discussion was borne out during my personal experience as I got closer to the water project; the closer I got to the water itself the more diverse, fluid and murky that water became. With the PMU, it was clear to see the meaning of this project. It was a project meant to improve health and capacity of a rural community. As I got closer to the implementing agency, these meanings became less clear. There was no absolute certainty about how this project would address the issues raised, as they found the context they were working in complex and the actors were not passive but active. The community had their own ideas on what this project meant to them and how it would be implemented. When I got to the community, the meaning of water became very murky. It was difficult to distil its meaning from everything else that existed in this community. This not only included present issues, but also issues related to the past and the future. As highlighted by Baumgartner and Hogger (2004), this water project was implemented within a complex institutional framework. Its meaning could not be clearly explained as I found with the PMU, because of the close interaction between members of the community and the project. These interactions as beneficiaries gave rise to a variety of meanings.

For the PMU the involvement was for a short period of time whilst for the community it was associated with their past and was seen as infinite (i.e. would continue with their children).
For the implementing agency, although they had an intimate relationship with the community, these meanings only would last as long as they were involved in the project.

6.5.3 Surfacing of meanings over time

The meanings ascribed by the groups were also found not to be immediate. They were circumstantial, in that they resulted from the experiences that each stakeholder group was having in implementing this project.

For example in the case of the PMU, the focus or prioritisation of sanitation emerged from their experiences over time. They were finding that this was not given enough attention and therefore they began to call attention to this meaning. Likewise, for the implementing agency, their improved relations with the community were a result of their interactions with the community. The increased sense of community amongst community members during the course of implementation arose from their interactions with each other and with other communities.

6.5.4 Elements that influenced the meanings

The elements or factors that influenced the meanings ascribed were the:

1. Distance culturally, organisationally and physically of each group to the water project. The donor was the furthest and therefore had limited interactions with the community and the implementing agency. This influenced their level of interactions with each other and contributed to the fluidity of the meanings between them.

2. Level of interaction (use and access) with the water project. The meanings each group ascribed to the water project were also influenced by their usage and access to the project. The donor and the implementing agency were restricted in their use and access. Even though the community in general had more access and use, amongst community members there was a growing difference that gave rise to the wide variety of meanings generated within the community. For example, the meanings given by men and women varied.

3. Stakeholder objectives of the project. The donor had the programme objectives of improving health conditions and broader goals of empowerment and sustainability that influenced the meanings they ascribed. CDI’s meanings were influenced by the agreed
project goals and its own organisational goals, the donor’s objective and those arising from within the community. The meanings ascribed by the community were influenced by the objectives of the two external agencies and to a greater extent by the variety of users within the community.

From the work of Strang (2005) she identifies four common themes or meanings of water that exist in different cultural and environmental contexts. These were outlined in Chapter 2, section 2.3.2, as (1) a matter of life and death; (2) a potent generative and regenerative force; (3) as the substance of social and spiritual identity; and (4) as a symbol of power and agency. These meanings reflect the interaction of people with water. In contrast, this study looked at the meaning of water from the point of view of the stakeholder’s interaction with each other in the course of implementing a water development project, and not necessarily in their interaction with water *per se*.

### 6.6 Chapter summary

In this particular case study of the three stakeholder groups the community was the closest in location and interaction with the water project. This resulted in a variety of meanings directly ascribed to the water project. CDI played an intermediary role, but at its field level had much more interactions with the community. This resulted to a mixture of meanings ascribed directly to the water project in Daga. The PMU was furthest from the project; therefore the meanings they ascribed were less related to the particular community context. Accumulated they reflected a diversity of meanings ascribed to the water project over a certain time and space.

It can be therefore be deduced that although the project undertaken in the community was logically set up to address the need to improve health conditions in Daga Community by building a water supply system, sanitation facilities and to provide heath and sanitation education and awareness to members of the community, it created a variety of meanings for the stakeholders in the course of implementing the project. As illustrated above, the assortment of meanings that were ascribed to this project by the stakeholder groups influenced the way they interacted and performed in this project. In some instances, these different meanings caused conflict and misunderstanding amongst the stakeholders, whilst in other instances it helped them to work together to accomplish the project.
It was also found that some of these meanings were evident and clear, others were not so evident. They came to the surface as each group interacted, and for me as the researcher these meanings were also ascertained over a period of time. This illustrates that meanings ascribed to the water project are not immediate, and neither are they constant. As illustrated in this case, at the start of the project the meaning of the project was more cohesive, but as the project was put into place within the community and the interactions between stakeholder groups begun to give rise to a diversity of meanings for each group as they experienced implementing the project with deferring degrees of interaction.
Chapter 7 Conclusion

7.1 Introduction

This Chapter contains a summary of key conclusions, implications and recommendations drawn from answering the research questions. It also highlights limitations to the study and makes suggestions for future related research.

7.2 Answers to research questions

It is imperative in the conclusion of any research to restate the original research questions on which a study was founded and to answer, as succinctly as possible, how the study answered the research questions. Indeed, what appears in this section is concomitant with this line of reasoning. The research questions are restated below.

Primary research question: What does this aid funded project mean to the three main stakeholder groups?

In answer to the primary research question this study found that between stakeholders there is a diversity of meanings ascribed to the project. These meanings are also fluid in nature as they reflect the distance and level of association of each stakeholder with the project. The closer and longer the association with the project, as in the case of community members, and to some extent the implementing agency, the more diverse the meanings ascribed. The further the distance and association of the stakeholder with the project, the more focussed and clear the meanings were. This diversity of meanings has implications for the implementation of the project because it influences the behaviours, actions and perceptions of the stakeholder groups.

The above primary question is further broken down into four specific questions:

1. What are the meanings ascribed by the Donor Agency?
2. What are the meanings ascribed by the Implementing Agency?
3. What are the meanings ascribed by the Beneficiary community?
4. How do these meanings compare and contrast?
The different meanings ascribed by stakeholder groups are summarised in figure 7.1.

![Diagram](image)

**Figure 7.1 Summary of meanings ascribed by stakeholder groups to the Daga Water Supply and Sanitation project**

The pyramid above (figure 7.1) reflects the responses to the first three sub-questions, summarising the meanings ascribed by each group to the water project. The meanings become more diverse, fluid and murky the closer one gets to the actual project site, whilst at a distance they are fewer and the meanings are clearer. For the implementing agency, the meanings are influenced by their intermediary role, whilst there is more consensus of meanings found in the donor agency.

The findings can be summarised as follows:

- Although the project was set up to improve health conditions, it created a variety of diverse and fluid meanings amongst the stakeholder groups. Some of these meanings were anticipated and intended; some were not.
Meanings ascribed by groups reflected needs. In turn, each group prioritized the different needs they ascribed. The more meanings the project had for them, the more difficult the prioritization.

These meanings influenced stakeholder behavior, actions and perceptions towards the project, towards each other and therefore influenced how the project was implemented through their interactions.

These meanings did not develop immediately, but evolved over the course of the project and beyond.

These meanings were influenced by the physical distance, level of interaction (usage and access) and objectives of each group.

7.3 Conclusions and implications

Conclusion

This study concludes that in multiple stakeholder rural development projects there is evidence of diverse and fluid meanings associated with the project. These diverse and fluid meanings are influenced by stakeholder’s interests or objectives, distance and usage. They have implications for the behaviours and actions of the people involved.

Implications and recommendations

The donor is critical to providing the resources to rural areas on behalf of governments. It can play an important role in informing government of the lessons learnt from working with rural agencies and communities. It is therefore important that its evaluations take into account the meanings ascribed by different stakeholders, rather than focusing on a measurement of inputs and outputs. The engagement with government needs to particularly consider local level government engagement and capacity building if donors intend to sustain their initiatives to build both human and physical capacity through rural projects such as in this case.

The strength of the implementing agency is in its close association with the community. It could use this advantageous position to assist the diverse range of groups and voices in the community to create more homogenous visions of the future amongst community members in a participatory and engaging manner. Furthermore, knowing that there is a diverse range of meanings in the community and almost singular meaning of projects amongst donors, implementing agencies could also aim to inform and educate donors.
about the diversity and fluidity of meanings which have implications on project implementation and prioritization at the community level to minimize fragmentation and misunderstanding amongst the stakeholders.

- Given that changes are constantly happening in the community and the vulnerability of traditional systems, communities should recognise that they will need to engage with external agencies in a competitive environment for resources to develop their area and people. This requires a balancing act between their traditional practices and modern methods of development. This study recommends that traditional systems of planning such as the telling of *tumbuna* stories be used by the community to identify issues and develop plans to manage these issues so that it can take control of the external forces of change coming into the community. The Ward Councillors and their committees should drive this process within the community with the assistance of implementing agencies and donor agencies.

### 7.4 Limitations and suggestions for future research

This study is context specific in that it looked at one rural water supply and sanitation project. This limited its ability to make generalisations over space (geographical boundaries or other localities) and time. However, the study was able to provide in-depth understanding of the meanings generated within the case study context and the implications on project implementation and on the livelihoods of the Daga community. The results can be generalised on the bases of extant theory to similar context, but not to identify specific meanings within the population (i.e. to other similar communities and stakeholder arrangements elsewhere even if they exhibit similar traits).

Findings from this study can be used to carry out further comparative studies in rural areas with multiple stakeholder group involvement, or to a urban area with a water supply and sanitation project to identify if similar meanings occur or not. More specifically, this project or other projects could be examined after their completion to examine the meanings ascribed to the project after implementation, as this research was conducted during project implementation. This would provide insight to meanings generated over time.
References


## Appendix A

### Interview schedule for Damayu village groups

<table>
<thead>
<tr>
<th>DAY</th>
<th>Location</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>POM – Moro</td>
<td>Travel to Moro</td>
</tr>
<tr>
<td>2</td>
<td>Moro</td>
<td>Went to Pimaga to let community know and inform women reps of workshop</td>
</tr>
<tr>
<td>3</td>
<td>Moro</td>
<td>At CDI Moro camp – organizing travel equipment for village visit.</td>
</tr>
<tr>
<td>4</td>
<td>Moro</td>
<td>Met &amp; interviewed CDI Field staff</td>
</tr>
<tr>
<td>5</td>
<td>Moro</td>
<td>Type of interviews and further preparations for village visit.</td>
</tr>
<tr>
<td>6</td>
<td>Moro – Damayu (Daga 1)</td>
<td>Travel to Damayu Village for first set of village visit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Welcome; Introduction and organizing of accommodation and interviews schedules</td>
</tr>
<tr>
<td>7</td>
<td>Damayu</td>
<td>Meeting with village councillors Women Leaders</td>
</tr>
<tr>
<td>8</td>
<td>Damayu</td>
<td>Council Committees (Kutubu Foe Cultural Group/ Law &amp; Order Committee; Health and Education Committee)</td>
</tr>
<tr>
<td>9</td>
<td>Damayu</td>
<td>FIDA Theatre Group</td>
</tr>
<tr>
<td>10</td>
<td>Damayu</td>
<td>Attended church Church Leaders and Ministries</td>
</tr>
<tr>
<td>11</td>
<td>Damayu</td>
<td>Council work parade Clan Leaders Sports group</td>
</tr>
<tr>
<td>12</td>
<td>Damayu</td>
<td>Oro’o Women’s Association</td>
</tr>
<tr>
<td>13</td>
<td>Damayu</td>
<td>In the village</td>
</tr>
<tr>
<td>14</td>
<td>Damayu – Moro</td>
<td>Travel back to Moro</td>
</tr>
</tbody>
</table>
Appendix B

Interview schedule for Fiwaga village groups

<table>
<thead>
<tr>
<th>DAY</th>
<th>Location</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>POM</td>
<td>Suppose to travel to Moro &amp; taken off flight</td>
</tr>
<tr>
<td>2</td>
<td>POM- Moro – Fiwaga</td>
<td>Travelled straight out to Fiwaga; sorted out interview program.</td>
</tr>
<tr>
<td>3</td>
<td>Fiwaga</td>
<td>Met with Women leaders</td>
</tr>
<tr>
<td>4</td>
<td>Fiwaga</td>
<td>Went to make sago</td>
</tr>
<tr>
<td>5</td>
<td>Fiwaga</td>
<td>Met with Kabugi Women Group Leaders</td>
</tr>
<tr>
<td>5</td>
<td>Fiwaga</td>
<td>Clan elders</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prayer Warriors (D1 &amp; 2)</td>
</tr>
<tr>
<td>6</td>
<td>Fiwaga</td>
<td>Attended church</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Council Committee &amp; Headman</td>
</tr>
<tr>
<td>7</td>
<td>Fiwaga</td>
<td>Visited local market</td>
</tr>
<tr>
<td>8</td>
<td>Fiwaga</td>
<td>Sports Group</td>
</tr>
<tr>
<td></td>
<td></td>
<td>String Band</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>Death in the village</td>
</tr>
<tr>
<td>10</td>
<td>Fiwaga</td>
<td>Mourning day</td>
</tr>
<tr>
<td>11</td>
<td>Fiwaga</td>
<td>Departed from village</td>
</tr>
</tbody>
</table>
Appendix C

C.1 Interview guidelines for EU and CDI Management in Port Moresby

Introduction and Overview
- Give thanks for their time and willingness to participate in this interview.
- As you are aware, this research is part of my masters thesis work at Lincoln University.
- The aim of the research is to understand how rural development projects are understood by different stakeholders.
- It is hoped that that this knowledge will contribute to rural project approaches and also contribute to social scientific work on “meaning making”.
- As you are aware Daga Water Project is the case study project that is been examined to give insight into this phenomenon.
- I would like to get your opinion or viewpoint of some of the questions that this research raises, as your organisation is involved in development work in PNG, but also more particularly is involved in this particular case study project. Is that okay with you?---
- If they consent, then explain that I will use a tape-recorder to capture the interview and that the interview can take up to 45mints.
- Do they have any questions before I start.

Opening Question:
- Maybe if we can start by you telling me a little bit about yourself, and how you came to work for the EU?

Transition Question
- Now before I get to questions on the Daga Project, could you tell me a little bit about what EU’s work here in PNG? What are the objectives and how is it going about achieving these in PNG?
- What do you see as the most important thing that EU is doing in this country? Why do you say this?
- How do you feel EU could improve its work in PNG?

Key Questions
- Let’s pretend that I don’t know anything about this project in Daga Village. How would you describe it to someone who knows nothing about it?
- How was it decided to fund the project?
- What sort of changes do you feel this project will bring to this community?
- Who do you see as the key stakeholders of this project? And why do you say this?
- How would you describe the role of EU in this project?
- How do you work with CDI and the community?
- How would you describe the need for this project?
- How would you describe communities like Daga village?
- What do you feel the project means to them?

Seeking Advise
- What do you feel in general about development projects in rural areas?

Summarising and Closing
- Thank you for your time, we have covered quite a few things, (go over the things we have covered).
- Is there anything else you would like to add that I may not have covered, or any question that you were expecting me to answer.
- Is there anyone else in EU that you feel I could speak to that would provide some useful information to my research?
- I intend to go up to Kutubu for a period of 9 weeks residing at the village and the CDI Camp, and upon my return would like to meet up with you again, to provide you an initial over-view of my findings. Please advise of a suitable time.
- Thank you once again for your time.
C.2 Interview guidelines for CDI Field staff

Introduction and Overview
- Give thanks for their time and willingness to participate in this interview.
- As you are aware, this research is part of my masters thesis work at Lincoln University.
- The aim of the research is to understand how rural development projects are understood by different stakeholders.
- It is hoped that that this knowledge will contribute to rural project approaches and also contribute to social scientific work on “meaning making”.
- As you are aware Daga Water Project is the case study project that is been examined to give insight into this phenomenon.
- I would like to get your opinion or view-point of some of the questions that this research raises, as your organisation is involved in development work in PNG, but also more particularly is involved in this particular case study project. Is that okay with you?---
- If they consent, then explain that I will use a tape-recorder to capture the interview and that the interview can take up to 45mints.
- Do they have any questions before I start.

Opening Question:
- Maybe if we start of with some introductions, tell me a little bit about yourself; your position, how long you’ve been working here?

Transition Question
- Now before I get to questions on the Daga Water Project, could you tell me a little bit about what you enjoy the most about your job?

Key Questions
- Let’s pretend that I don’t know anything about this project in Daga Village. How would you describe it to someone who knows nothing about it?
  - How was the need for this project identified?
  - In your opinion what is this project trying to achieve?
  - How do you see these been achieved?
  - How is the project progressing?
  - What are the good things that are happening?
  - What are some of the challenges?
- What sort of changes do you feel this project will bring to this community?
- How was it decided where the water tank would be place?
- How is the project been managed?
- Who do you see as the key stakeholders of this project? And why do you say this?
- How would you describe the role of CDI in this project?
- How do you work with EU?
- How do you work with the people in Daga Village?
- How would you describe communities like Daga village?
- What do you feel the project means to them?

Seeking Advise
- What do you feel in general about development projects in rural areas?

Summarising and Closing
- Thank you for your time, we have covered quite a few things, (go over the things we have covered).
- Is there anything else you would like to add that I may not have covered, or any question that you were expecting me to answer?
- Is there anyone else in CDI or your partners that you feel I could speak to that would provide some useful information to my research?
- At the end of my time here and in the village, I intend to provide you an initial over-view of my findings. Would you like to attend this session?
- Thank you once again for your time.
C.3 Guidelines for initial session in village

Introduction and Overview
- Thank them for allowing me through their councillor to come and live in their village to conduct my research.
- Give them my name and explain why I am staying in their village.
- This will basically entail that I am a university student studying at Lincoln University in New Zealand. I previously worked here in Kutubu and have an interest in how development work is done in Papua New Guinea because of this past experience.
- I am hoping through this work, to produce research work that will help to improve how projects are done in rural communities so that the benefits of these projects are beneficial to all stakeholders.
- I will now go over and give you an over-view of my research work and what I will be doing while I am here.
- If you have any questions at any time, please feel free to ask the question.

Why Daga Village Water Project
- I would like to start off with why I chose Daga Village as the place where I would conduct my research:
  - Firstly because it has a water project.
  - Secondly because it is one of the largest villages in Kutubu.
  - Thirdly because CDI has a very high opinion about the way development projects are done in Daga Village.
  - Fourthly because CDI is recognised as one of the biggest local NGO’s in the country.
  - And EU is seen as one of the biggest donors of water supply projects in rural villages in the country.
  - Also because I know this community and have worked here in the past.
  - All of these conditions made Daga the most suitable village for me to do my case study research work in.

Research Procedure
- Upon receiving confirmation from your leaders that I was welcome to come to your village to do my research, I will be staying here firstly for 10 days.
- During this time, I will live with you, I will be meeting with some of you in groups and talking to some of you. I hope that you will all be happy to talk with me, but if you are not, please feel free to tell me this, and I will not disturb you.
- My reason for meeting with you, is to ask you some questions that I have that will help me to understand what the water project in your village means to you and why it means this.
- This research is not been done to judge you, or CDI or EU about the work that you are doing. Its aim is to understand how the project is done, to help inform others on how development projects could be done better from your example, but also to share with others things that are challenging so that we can all hopefully learn from these challenges.

Closing
- Again if you have any questions please feel free to ask?
- Question and Answer & Discussion session.
- Bring it to a close by thanking them and letting them know that I will be in the village, so if anyone has any questions, please feel free to let me know.
C.4 Interview guide for key informants in Daga Community

**Introduction and Overview**
- Give thanks for their time and willingness to participate in this interview.
- As you are aware, this research is part of my master’s thesis work at Lincoln University.
- The aim of the research is to understand how rural development projects are understood by different stakeholders.
- It is hoped that that this knowledge will contribute to rural project approaches and also contribute to social scientific work on “meaning making”.
- As you are aware Daga Water Project is the case study project that is been examined to give insight into this phenomenon.
- I would like to get your opinion or view-point of some of the questions that this research raises, as your organisation is involved in development work in PNG, but also more particularly is involved in this particular case study project. Is that okay with you?---
- The interview can take up to 45mins, and I will be writing down your responses.
- Do they have any questions before I start.

**Opening Question:**
- Tell me about yourself and your family.

**Transition Question**
- Let’s pretend that I don’t know anything about Daga Village, how would you describe this village to someone who knows nothing about it. What is the village like, how do people live in this village?
- How do you feel things have changed in the village from the past? And why do you say this?
- Now as you know I am interested in finding out about how development projects are done in rural communities, but before I talk about that, can you tell me about the water sources in that you have in this village, and how you use them?

**Key Questions**
- SO how did this water project come to be started in this village?
- Again let’s pretend that I don’t know anything about this project, how would you describe it to someone who knows nothing about it?
- In your opinion what is this project trying to achieve?
- How do you see these been achieved?
- How is the project progressing?
- How was it decided where the water tank would be place?
- How is the project been managed?
- Who do you see as the key stakeholders of this project? And why do you say this?
- Who is helping the community to implement this project and how would you describe their role in the project?
- What do you feel the project means to women in the community? To men? To young people?
- What are the good things that are happening?
- What are some of the challenges?
- What does this project mean to you.

**Summarising and Closing**
- Thank you for your time, we have covered quite a few things, (go over the things we have covered).
- Is there anything else you would like to add that I may not have covered, or any question that you were expecting me to answer?
- Is there anyone else in CDI or your partners that you feel I could speak to that would provide some useful information to my research?
- At the end of my time here and in the village, I intend to provide you an initial over-view of my findings. Would you like to attend this session?
- Thank you once again for your time.
C.5 Guidelines for Village Mapping Session

Introduction
- Give thanks for their time and willingness to participate in this session.
- Explain that I have been in this village for a few days, and to help me understand the village a little bit, we will be working on producing some maps of the village that they will use to help me understand how they village looked like in the past and how it looks like now.
- As you are aware, this research is part of my master’s thesis work at Lincoln University.
- The aim of the research is to understand how rural development projects are understood by different stakeholders.
- It is hoped that that this knowledge will contribute to rural project approaches and also contribute to social scientific work on “meaning making”.
- As you are aware Daga Water Project is the case study project that is been examined to give insight into this phenomenon.
- This exercise will take about 45mints and we will be doing this together. Do they have any questions before I start.

Exercise
- Explain to them that the purpose of this exercise is to identify if there are any changes in their community.
- We will divide up into small groups, and in these groups we draw 2 maps of our village. One ten years ago, and another map showing now.
- Each group will be given some coloured markers and 2 flip-charts.
- Explain that the maps do not only have to show physical changes that have happened in the village, but if there are changes in how things are done and how it feels to them.
- After doing this for 20mints, check where everyone is at.
- If they are ready do the presentation, if not, give them another 10mints and say that they will need to wrap up by then.
- They will then present these maps to each other and I will facilitate the discussion, and probe for further information.
- Points to probe are:
  - Spot any major differences in the maps.
  - Spot any major similarities.
  - Identify if the water project comes up in the discussions.
  - Note and probe the reasons for why and how they feel things have changed.

Conclusion
- Inform them that I will take photo’s of the maps and that the maps can remain with their groups to use for anything else that they may want to.
C.6 Guideline for Venn diagram session

Introduction
- Give thanks for their time and willingness to participate in this session.
- Explain that I have been interviewing for a few days now, and one of things that I want to understand the interest and influence of different stakeholders in this water project.
- To do this together we will use the Venn Diagram to help us to identify the interests and influence of the different stakeholders that are involved in this project.
- Ask them if they understand the term stakeholder and have some discussion around this.
- In their groups, they are to identify and list all the stakeholders of the Daga Water Project.
- Once they have listed all these stakeholders, the groups should then discuss these to see if they have exhausted all the different groups or stakeholders of the project.
- Now explain to them that will be given some coloured paper to help them represent the different stakeholder groups.
- Give them different sizes of circles. Now they need to label these circles with the names of the stakeholders, but the circle size of each group is relative to how they see the size of interest of that stakeholder group. Give an example (the larger the circle, the larger the interest.). Once they are satisfied with the sizes move onto the next stage.
- A sheet of A4 paper with the water project name will be pinned on the wall. They are to place the circles at a distance from this paper, indicating the distance of the stakeholders as they see it to the project. (if they feel that the stakeholder group is close to the project they put them closer to the middle then the ones that they see not been so close).
- The last stage is determining the power that stakeholders have of the project. This time, the group is given different sizes of triangle. The larger the triangle represents the larger the power of the stakeholder group. They are to place power relative to each other. This should show who has the largest power to who they feel have the lowest power.
- At the end of each session, discussions should be held.
- At the end of this activity, each group should have a piece of flip chart paper for the project with circles and triangles representing the stakeholder groups and their relative influence pasted on it.

Conclusion
- Inform them that I will take photo’s of the diagrams and that the diagrams can remain with their groups to use for anything else that they may want to.