

EQUITABLE MANAGEMENT OF WATER AND SANITATION IN PACIFIC ISLAND COUNTRIES

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March 2005

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SOPAC Secretariat

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EXECUTIVE SUMMARY

This study, conducted through SOPAC and funded by DFID, was carried out in two stages. The initial phase involved research into current practices and materials related to community participation in water supply and sanitation (WSS) in Pacific Island Countries (PICs). The second phase aimed to provide recommendations, assistance or 'guidelines', where necessary, to fieldworkers who are engaged in the provision of water and sanitation to rural communities. It was intended that these 'guidelines' would contribute to equitable and sustainable protection of public health and natural assets.

This report describes the research as it evolved and shaped the outcome. The research focused on a review of guiding materials currently used by fieldworkers, and attempted to identify any gaps in information, which may need attention so that communities could more effectively manage their water resources. Questionnaires were sent to relevant organisations, and informal discussions were held with personnel in funding agencies, government institutions, regional organisations, non-government organisations, and with community members. This was to ascertain the following:

- what materials/guidelines were being used;
- what kind of materials did fieldworkers feel they needed;
- what attention was being given to gender equity and poverty alleviation issues;
- what type of water supply and sanitation systems were being installed, by whom, for whom and under what conditions; and
- whether or not these water supply and sanitation systems were being maintained.

From the initial research, it was discovered that there is substantial international and local literature on participatory processes for general resource management, including a number of guidelines/checklists for gender and WSS in particular. There is also a variety of technical manuals for the construction and maintenance of toilets and water supply systems. However there is little material, which addresses typical WSS scenarios in the small island context.

It was concluded that there appears to be a need to provide PIC fieldworkers with something familiar which they can relate to, that identifies technical and social obstacles or opportunities, which they are likely to encounter when designing or implementing programmes. These guidelines would be aimed at involving all members of PIC communities in wise management of water resources, and could complement current materials and approaches.

In considering the potential production of such a guideline, the following challenges were encountered and discussed:

- the dispersed and diverse physical and social conditions in the 17 member countries within the study;
- the dilemma of an external agency such as SOPAC providing guidelines which are intended to empower disadvantaged people within communities;
- the relevance of introduced notions of gender equity and poverty reduction;
- the need to be flexible and non-prescriptive while offering relevant directions that address specific social and technical aspects of community participation in WSS in Pacific conditions; and
- the requirement for media that is accessible to fieldworkers who work primarily through an oral tradition.

In response to the above challenges, and in consideration of the results of the research, it is proposed that the guidelines be presented as a series of Questions. This is a strategic approach aimed at working within the traditions and norms of varied cultures, while maximising the opportunity to address inefficiencies and inequities. The rationale for each of the Questions draws on information provided by fieldworkers across the region. The Questions can be developed into a simple text with photos showing people from Polynesia, Melanesia and Micronesia dealing with common water management issues.

It was also concluded that practical experiential training for fieldworkers and community members is required to increase technical skills, and to ensure effective technology transfer, and long-term maintenance of resources and of sanitation and water supply systems. This practical training should be facilitated so that women, men and youth can participate, and have the authority and confidence to implement what they have learnt.

1. INTRODUCTION

“SOPAC is mandated by 18 Pacific Island Countries (PICs) to provide technical policy and project level advice on the sustainable development, utilization and protection of water resources in its member countries. Of particular concern is the capacity of urban and rural water supply systems to provide safe drinking water, and the impact of inadequate sanitation facilities on water resources, the environment and public health. While solutions to the water and sanitation challenges in the region clearly require technical input, long-term sustainability calls for equal and sustained attention to the social aspects of human behaviour and relationships.” (TOR, SOPAC 2003).

This project, which was conducted on a part-time basis between May 2003 and March 2004, aimed to provide recommendations, assistance or ‘guidelines’, where necessary, to fieldworkers who are engaged in the provision of water and sanitation to communities in PICs. It was intended that these ‘guidelines’ would contribute to equitable and sustainable protection of public health and natural resources. This is a very broad and complex area, which involves many physical and social factors, each of which requires a particular comprehension and approach.

This report describes the research as it evolved, and provides summaries and brief discussion of the information that was collected from personnel across the region. The research focused on identifying the guiding materials and tools currently used by fieldworkers in water supply and sanitation. This did not extend to an in-depth review of the success or failure of the participatory methodologies employed in facilitating community participation. An investigation of the many participatory methodologies available is beyond the scope of this study, and has been addressed in other recent research (SPREP 2002a and b).

A number of case studies were chosen to illustrate a range of activities in PICs, which have involved communities in the planning, implementation, and management of WSS. These particular case studies were chosen partly because the author had some previous contact or involvement with the programmes, or the fieldworkers, and was able to draw on contacts and information gathered in the past to help review current status, process, challenges, and longer-term impacts.

As a result of the gaps in information identified during the research, the report proposes a non-prescriptive checklist, which could be used in the implementation of water and sanitation programmes in PICs. Simple illustrated ‘guidelines’ could be developed from this checklist, which aim to complement the materials and approaches that are currently available.

1.1 Goals and outcomes of the research

The goals of the study, as previously mentioned, were to identify what materials/approaches were being used by fieldworkers and to provide additional guidelines where needed. The rationale for the study was based on the assumption that if 'community participation' 'gender equity' and 'poverty alleviation' are integrated into the planning and implementation of water supply and sanitation (WSS) programmes, then the likelihood of effective technology transfer and sustainability is greatly increased.

This is a practical and relatively simple approach. It is logical that protection of water resources and public health would be enhanced if those family members who are responsible for the provision of water, sanitation and hygiene in the home are actively involved in the planning, design and management of water and sanitation facilities.

Conversely it could also be said that by addressing gender and poverty issues within WSS programmes, gender equity and poverty reduction is advanced within a community. This is more complex, and difficult to evaluate.

Much of the experience behind these concepts comes from development agencies in Europe, and is based on many years of trial and error in Africa, Asia and Latin America. There is considerable literature on ways and means to engage communities in effectively and equitably meeting their basic needs (see References and Appendices). The literature has been reviewed and updated over time as experience accumulates, or as previous approaches have not been embraced by the target communities. Where techniques or approaches have failed to reduce the number of people without adequate water and sanitation, further review has also been undertaken (Wijk-Sijbesma 1998, SANDEC/WSSCC 2000, Schertenleib and Heinss 2000, Foncesca and Bolt 2002, DFID 2002, Gender and Water Alliance 2003, Khosla 2003(a), WSSCC 2003).

However, from the literature review and discussions with people working in the field there appears to be no guidelines designed specifically for engaging PIC communities in water and sanitation initiatives, and which also addresses gender equity and poverty alleviation.

There are some local publications, which address implementation of rural water supply systems (Visser 2001), and others focused on aspects of sanitation, but none that incorporate all the above criteria. Perhaps it has been too difficult and impractical to bring all these aspects together in one accessible medium?

Handbooks have been produced which have been adapted from international literature (Directorate of Public Health, Vanuatu 2001), and while much of the international experience and literature is universally relevant, there are particular conditions in PICs which merit a local approach. These conditions include:

- varied customary land tenure and resource ownership arrangements;
- small dispersed populations (even within overall larger populations such as Papua New Guinea);
- firmly established traditions of communal structure and function;
- extended family obligations, dependencies and allegiances;
- limited government control over domestic life;
- concerns related to taboo, ceremonial status and privacy; and
- varying ideas about disease and hygiene.

It is within these local contexts that the concepts of gender equity and poverty alleviation need to be understood and addressed if a practical, accessible field manual for the management of water and sanitation is to be developed.

1.2 Intended beneficiaries of the study

The research, which is described in this report, could be useful for any personnel involved in the water and sanitation sector. The target groups, who could benefit from the 'guidelines' or handbook, which is produced as an output of this study, are government and NGO personnel working on the implementation of WSS programmes in PICs.

The fieldworkers who could potentially use the 'guidelines' may sometimes be directed by the requirements of an agency funding a particular project, but on most occasions they would be conducting routine work within their department or organisation. They may be the sole Health Officer on an island, or group of islands, responsible for all manner of environmental health issues, or they may be specifically assigned to rural water supply, or acting as the Village Sanitarian. They may be the Extension Worker from an NGO engaged in assisting householders to install or upgrade water tanks, toilets and washhouses. They could also be a Volunteer working on an income generation scheme, which is dependent on a sustainable supply of water, or a Pastor improving conditions in the church compound.

It is intended that the recommendations or 'guidelines' developed from this study may provide an accessible resource to any of these fieldworkers, thus contributing to constructive practice in their relationship with communities, and an integrated equitable approach to catchment management.

As the majority of the population in PICs utilises on-site water supply and sanitation systems, the quality of the relationship between these fieldworkers and the community is an essential link in the protection of public health, secure livelihood, and natural assets. Many of the issues and principles explored would also apply to centralised urban WSS projects.

1.3 Defining 'gender'

There are various terms and concepts used in this Report, and the understanding of their meaning varies among users. As 'gender' is one of the considerations of the study, some discussion is provided here of common interpretations provided in the literature.

The English word 'gender' originates from the Latin *genus* which means race, kind, or sort. In the Australian Macquarie dictionary 'gender' refers to socially-conditioned characteristics or typical behaviour whereas 'sex' refers to the physical characteristics, which distinguish males and females.

More fully, 'gender' refers to the specific roles and responsibilities adopted or inherited by men and women in any society. It is related to how we are perceived by others and how we are expected to think and act as women and men, because of the way society is organised, rather than because of our biological differences.

From the literature, a 'gender approach' implies that attitudes, roles and responsibilities of females and males are to be taken into account. This involves recognition that both men and women do not have the same access to, or control over resources and that benefits and impacts may be different for both groups. The gender approach requires open-mindedness and the fullest participation of both men and women. It highlights:

- the differences between men and women's interests even within the same household and how these interests are expressed;
- the conventions and hierarchies that determine women and men's position in the family, community and society at large, whereby women are often dominated by men;
- the differences among women and men as based on age, wealth, ethnic background and other factors; and

- the way gender roles and relations change, as a result of social, economic and technological trends.

What 'gender' means to people in PICs is another matter. The common response in discussing this subject with Pacific islanders, if people have heard of the English term, is that 'gender' refers to women, and 'women's problems and rights'. This view is also often held by expatriate professionals in the water and sanitation field, and is somewhat reinforced by the fact that gender policies, in effect, commonly focus on the unrecognised needs of women and girls. This perception needs to be addressed.

2. CHALLENGES AND QUESTIONS EXPLORED DURING THE RESEARCH

There are particular challenges or constraints in attempting to develop indicators for useful practice in the implementation of sustainable and equitable WSS in PICs. These logistical and social considerations are briefly described in this Section, as they were encountered during the research process. The challenges shaped the scope of the research, and determined the outcome of the study.

2.1 Diversity of PICs and method of research

The overarching challenge is that this project seeks to address the requirements of seventeen PICs with significant differences in physical conditions such as rainfall patterns, geology, vegetation, and hydrology. Socio-economic conditions also vary greatly between and within these countries. All these factors impact on the capacity of individual communities to achieve integrated and equitable water resource management.

Any recommendations that are made for fieldworkers need to allow for the many differences faced by communities in PICs, while being alert to the shared realities. The shared realities include: the fragility of the island environment; limited land areas and human, financial and natural resources; fundamental dependence on marine ecosystems; and vulnerability to natural hazards such as cyclones, and the impact of climate change (UNEP 2000).

This overview of materials used in community participation in WSS has attempted to include information from as many PICs as possible. Personnel from Micronesia, Melanesia and Polynesia have provided information. Thorough case study is constrained by time, logistics and budget. Therefore activities in two nearby Melanesian countries, Fiji and Vanuatu, and one Polynesian

country, Tonga, have been selected for more detailed investigation as practical demonstrations of possible approaches and content for guidelines. It was intended that the Federated States of Micronesia also be included in the case studies but it was not possible to organise a site visit within the time available. Reference is made to information provided in preparatory discussions held with government personnel from the Federated States of Micronesia. The case studies are discussed in section 5 of the report.

A review has been undertaken of guidelines, checklists, manuals and other material used by government departments, donor agencies and non-government organisations working with rural communities in the Pacific. This review was initially conducted through a questionnaire sent by e-mail and fax to all the institutions in the region that are working with communities in water, sanitation and related resource management programmes. Although surveys are not a particularly effective method of gaining input in the Pacific, the mail-out served to notify relevant organisations in the member countries that the research was being conducted, and gave distant personnel the opportunity to participate.

A small percentage of those who were contacted replied to the mail-out. Subsequent interviews with personnel from regional and government organisations based in Suva, Fiji, Tonga and Vanuatu have enabled a more complete picture to be established. Many fieldworkers and community members across the region generously provided information and personal accounts either by e-mail or, where possible, through informal discussion by phone or in person. Some discussions lasted for many hours and covered a wide range of related topics. Other discussions were conducted intermittently where opportunities arose, such as at workshops or in airport terminals. The source of information in the text is identified where it is not contentious, but all those who contributed information are listed in the Personal Communications at the back of the report.

Refer to Appendix A for organisations included in the survey, although some did not respond to the Questionnaire as such. Despite the vast distances and communication difficulties experienced in the region, a great deal of information was received during the course of this research. Unfortunately all the feedback could not be included in detail in this report. The findings from the Questionnaire are briefly discussed at Section 4 and responses to Questionnaires are recorded in Appendices B1-B4. Other information and ideas are referred to throughout the text. This review has provided some indication of what is being utilised and achieved across PICs and what may need to be built upon. The issues raised will be more relevant to some communities than to others.

2.2 The dilemma of 'empowerment'

A second challenge in approaching this research is concerned with the notion of empowerment. It could be seen as a contradiction in terms, for a regional organisation such as SOPAC to be involved in the development of guidelines to facilitate equitable community participation at a local level. It could be said that the overall goal of this project is 'empowerment' – *of* the community in relation to the effective management of their health and natural assets, and *within* the community, for those who are marginalised or disadvantaged so that may have an active role in that management. Yet empowerment suggests that someone – possibly the development or funding agency – is giving power to 'the oppressed' or 'the powerless'.

However, if this power is understood as the ability to act for ones self, to create rather than coerce, then perhaps this power cannot be given – it can only be taken – it is social power, experienced in relation to others. Therefore the question presented itself as the research progressed: can a regional agency effectively recommend the means for a local community to empower itself?

There is also focus on changing power relations *within* the local community, particularly in relation to gender and poverty. Once again the question arises, can this process be directed, even by suggestion, from outside the community?

For example, the twentieth century feminist or women's rights movement arose in industrialised countries from the agitation of local women themselves, supported by some men, and evolved over decades in response to the strictures, reactions and socio-economic conditions of those particular cultures. This process is by no means complete, and there are some analysts in industrialised countries who believe that womens' wellbeing is 'going backwards' in the last decade, (including increased poverty and domestic violence), and a new solidarity and activism is required (Summers 2003). The long struggle for equity and opportunity has had many phases, and ongoing unexpected ramifications are being experienced in the lives of second and third generations of women and men.

Recognition of this historical context leads to questions, such as: what is it that women in PICs want now, and how do they want to go about achieving their goals? what do men understand about gender issues, and what do they want for their sons and daughters in the twenty-first century? There are many relevant documents and publications produced in the Pacific which clearly and firmly answer these questions (Ministry of Women and Culture 1998, South Pacific Forum Secretariat 1998b, 1998c, 2000, UNIFEM 2002, PACFAW 2003). However, as in response

to any such significant trend, personal opinions and experiences range across many points of view, and reflect many grey areas.

In informal discussion with more than sixty women and men from PICs regarding these questions, the response varied greatly. For example, some young Pacific islander women feel that gender roles are just one of many aspects of persona, status, and opportunity in their community, rather than a major determinant, and have expressed the opinion that the gender policies imported from industrialised countries are inappropriate to PIC conditions. Others express dismay at the possibility that the wheel would, therefore, have to be reinvented, and that women and men within Pacific communities would be involved in lengthy struggle and negotiation repetitive of that experienced in developed countries.

Some men in the water and sanitation sector expressed support for more active involvement of women in water resource management but asserted that men are the ultimate decision-makers. Several men commented that “men talk a lot but don’t act” and women should be given respect and authority for the burdens they carry. Some young women who are actively involved in promoting gender equity in their WSS programmes admitted they would not challenge the status quo within their own families (see case study at 5.1). Others feel that the current gender approach is an inappropriate dilution of the previous focus on the unmet needs and rights of women and girls.

In regional fora, men have expressed the opinion that gender policies currently being developed and promoted in PICs are disrespectful to the culture of island countries, where women are ‘highly regarded’ but have defined roles. Other men have advised that the main goal should be to inspire men to encourage and support equal opportunities for women and girls, rather than expecting women to fight for those rights. A field worker explained that ‘gender’ is important for development work in PICs because the roles of women and men very often differ. Therefore he felt that it was important to know where the different contributions of women fit into ‘a food or supply chain’, and then address their needs separately or together depending on the context. He considered this to be an efficient approach in the resource-scarce environment of the region

In the history of development programmes there have been a number of stages, often overlapping, which somewhat reflect changes in attitudes to gender issues which have occurred within industrialised societies (Moser 1989; Wijk-Sijbesma 1998):

- the ‘welfare approach’ which focuses on womens’ reproductive roles, that is, as mothers, wives and house managers and requires women to change their domestic behaviour so that better hygiene, health and nutrition will be achieved;

- the ‘anti-poverty’ and ‘efficiency’ approach recognises that women are also economic producers and actors in the public realm. During colonial and neo-colonial times these roles were not recognised resulting in a loss of status and income and consequent reduced efficiency of projects;
- the current “empowerment” approach seeks to promote the rights of women and men to make choices in their lives and to influence change, with an understanding that women’s gains will not imply men’s losses. “This approach challenges women to seek a new self-consciousness and new positions in their countries’ legal and civil codes, economies, institutions and management systems” (Brikke 2000);
- the ‘gender mainstreaming’ approach shifts the focus from women as a target group, to strategic interventions which ensure men and women benefit equally (DFID 2002, Khosla 2003b).

However the donor countries have had much more time to deal with these complex issues in their own cultures. In the recipient countries this process has been compressed into one generation or less, and local communities receiving donor support have been required to adjust accordingly to the changing policies (see case study 5.1). There have also been differing policies among the various donor agencies at any one time.

In the same way that gender issues require understanding within Pacific conditions, there is a need to comprehend the nature of poverty in the local context. Within development agencies in Europe there is currently a focus on ‘the poor’ with certain advocated practices aimed at poverty alleviation. Access to safe water and basic sanitation facilities is widely considered to be critical to poverty reduction and the improved wellbeing and livelihoods of ‘the poor’. However these approaches cannot be imported to PICs without some adaptation and examination of their relevance. For example, at the Pacific Regional Consultation on Water in Small Island countries at Sigatoka, Fiji in 2002 some Delegates objected to the use of the term ‘the poor’ and preferred ‘disadvantaged’ in the Island context. The inclusion of ‘the poor’ in an official document, despite these objections, could result in the document not being ratified, or not taken seriously if it is ratified.

Disagreement is often expressed in circumspect terms at formal international Pacific gatherings, so a mild objection should be heeded as a potentially strong statement and it reflects, in part, a desire to articulate one’s own problems, rather than have them diagnosed by outsiders. There is also an implied recognition of the social security system within many Island communities, which is

related to extended family obligations, traditions of hospitality to visitors and strangers, differing priorities for cash expenditure, ongoing support from the diaspora, and subsistence dependence on fishing, home gardens and domestic animals (Pers. comm. Karawaiti 1997). There is a strongly held belief that “no one goes hungry” in an Island community (Pers. comm. Fatai 2003).

Some communities or families may be cash poor, but asset or status rich. Even squatters in peri-urban communities often have entitlements to land use on their ‘home island’ and choose to forego that security temporarily to access the perceived benefits of urban centres (Pers. comm. Tim 1996, Narfi, McCartney, 2003). This is not denying that there is a daily preoccupation with survival for some communities and families in PICs, but the notion and experience of ‘poverty’ and ‘the poor’ has to be understood and addressed in the context of the small island environment.

2.3 Flexibility and detail

A third challenge is presented by the need for flexibility as well as detail. The nature of guidelines, if they are detailed enough to be useful, suggest that it is possible to apply experience that has worked in the past to a new set of circumstances and achieve more or less the same outcome. This assumption has resulted in a substantial number of manuals, training packages, field guides which comprehensively cover all manner of methodologies for engaging communities in the operation and maintenance of water supply and sanitation systems.

Some of these documents are very long, up to 300 pages of small print (Brikke 2000) and provide excellent instruction based on years of experience in the field, mainly in Africa and Asia. However, in the attempt to prepare the fieldworker to anticipate and catalogue the myriad complex features of a living social order, there is also the danger of becoming over prescriptive. This could result in a loss of instinctive trust in the shifting informal web of relationships, unpredictable circumstances and expressions of common sense and initiative that make up the fabric of community life.

Consequently the output from this project, the ‘guidelines’, need to be flexible and non-prescriptive while offering direction that addresses social and technical aspects of community participation in WSS in Pacific conditions. There is already a wealth of written information available on the various elements of these criteria and the research has revealed that organisations and departments in the region are using a combination of materials and tools from a variety of sources, and/or methodologies they have developed themselves (see Appendices A and B). In some cases there is no written record of locally-developed approaches, especially in some of the NGOs, where experience and skills are shared among fieldworkers.

In discussion during the research, some expressed the opinion that there is no value in developing recommendations for WSS in PICs, because each country needs its own customised approach (Pers. comm. Whyte 2003). Others have stated that it would be helpful to be able to draw on experience from other PICs when implementing their own WSS programmes (Pers. comm. Ioan, Kalmet, Taleo, Vi, Leha, Fakaosi, Ganileo, Sivoi, Tangi, Santos, Rabuli, Binkoka, Ekali, Daniel 2003).

A further reason for the recommendations not being prescriptive is that external intervention in the domestic realm is generally unwelcome. Enforcement of regulations, laws or policies of any kind is problematic in PICs due to small populations where many people are often related, or know each other. In these close-knit communities it is quite possible that a person, charged with the task of enforcing some policy within their work duties will encounter relatives to whom she/he owes deferential respect (Pers. comm. Sivoi 2003).

It is also possible that an Environmental Health Officer is unable to discuss sanitation issues with more than half the population of their village because of taboos which control his or her relationship to second, third or fourth cousins (Pers. comm. Fifita 1998). In addition there is a common reluctance to intervene in other people's business, and to share knowledge outside the extended family, which can also permeate the workplace resulting in breakdown in the flow of information (Pers. comm. Kamauti 1998).

There are complex taboos regarding relationship which people are unwilling to transgress for the sake of introduced notions of equity. Challenging traditional structures, which appear to contribute to inequitable conditions, can also have inadvertent negative effects such as loss of patriarchal authority to protect the community's natural assets (Pers. comm. McEwan, 2003).

On the other hand, rapid change is possible within small self-regulated populations, if the right conditions and dynamics exist. According to some fieldworkers, creating these conditions may take years of sensitive investigation before a WSS programme is even introduced (Pers. comm. Waqa 2003). In the fragile physical and social ecosystems of small island communities, any traditional structures or practices, which are challenged or eroded through adaptation to 'modern' technologies or ideologies, need to be constructively replaced (Pers. comm. Santos 2003).

2.4 Integration of social and technical science

The fourth requirement is to find a way to effectively integrate social and technical science in any 'guidelines' that may be produced. As 90 per cent of the population of PICs uses on-site

sanitation systems and 80 per cent depend on household water supply, (tanks and wells – supplemented by village water schemes in villages and large scale reticulated supply in urban areas), it makes sense to support and develop ecologically-sound decentralised systems.

Even in main urban centres such as Nuku'alofa in Tonga, and Port Vila in Vanuatu, there is no reticulated sewerage system, and given the land tenure constraints, and cost and maintenance requirements this is not a viable option in the foreseeable future. Therefore the local evolution of appropriate on-site systems can provide a sustainable strategy.

For this reason it is important to include basic technical issues within the 'guidelines', in addition to the socio-economic criteria, to ensure that fieldworkers and members of the community have practical support and training for the long-term maintenance and management of their WSS.

2.5 Accessible assistance

Having determined what information may be relevant and useful to fieldworkers across PICs, the next challenge is to make the information accessible. Literacy is sometimes limited, particularly in rural areas, and as one Ni-Vanuatu remarked "Islanders are basically a story telling culture" (Pers. comm. Tari 2003). A rich oral tradition prevails and is often the primary manner in which knowledge is transferred and community concerns are explored. Even for the literate, it is recognised that lengthy documents and reports are not likely to be read. Consequently the offices of government personnel often contain shelves of project material, manuals and publications that are not used. For example, this report is not likely to be widely read because of the scope and the complexity of information it presents.

Even in circumstances where a sanitation field manual was developed in-country by an expatriate volunteer in collaboration with local counterparts, and then translated into the local language, a large box of copies lay unopened, gathering dust. The reason given was that the manual was "too wordy" (Pers. comm. Laban 2003). It was presented with explanatory diagrams and the occasional sketch throughout the well-spaced 58 pages. The language and concepts used in the English version were relatively complex and unfamiliar so it is possible that the local version was quite difficult to translate. However, the lack of uptake of this format indicates a significant challenge in conveying technical information in the written form, and especially if it is culturally incongruent.

It is intended that the format/media chosen to present recommendations from this study will be useful and appropriate for fieldworkers with varying skills, literacy and technical support, who are

involved in rural WSS. They might use the material as a checklist for the process of community involvement. Potentially it could also be used as a tool with the community in implementation and long-term management of systems. In terms of hardcopy material, which can easily be carried into the field, simple manuals, posters, and flipcharts are possible options.

From experience, and from conversations with PIC fieldworkers it has been indicated that posters do not achieve much, although they can be welcomed as decoration to offices and homes. Flip charts are helpful for stimulating discussion and critical thinking and have been used extensively by Live and Learn in their work with schools. Some fieldworkers have advised that flipcharts could be useful in providing a step-by-step process for WSS with illustrations/photographs on one side, and written explanation on the back “for when we have to write reports” (Pers. comm. Laban 2003).

Theatre appears to be universally popular and is being used in many donor-funded programmes to promote discussion, support training and deliver messages. It is certainly effective as entertainment, and usually draws crowds, but requires skilled interactive techniques to really involve the audience and test understanding, and ongoing funding to carry it into the communities. Whether it leads to behaviour change is difficult to monitor (Pers. comm. Dorras 2003).

Radio plays can be a powerful, relatively inexpensive, advocacy mechanism and they have been used to support the Rural Water Supply programme in Vanuatu. ‘Family Blong Sarah’, a serialised drama in its 2nd year, describes a community which is going through the process of implementing and maintaining their water supply system, as recommended by the Department of Geology, Mines and Water Resources. The ongoing story relies on research from many communities where typical issues have arisen, such as women on water committees, and is apparently so engrossing that even the head of the Department is reluctant to miss an instalment (Pers. comm. Ioan 2003) (see section 5.1 for Vanuatu case study). It is estimated that more than half the population of Vanuatu has access to radio (and batteries) at any one time.

Practitioners such as FSP in Fiji (now known as Partners in Community Development Fiji (PCDF)) who use theatre, report that communities appear to be more convinced by the message promoted in film because the contents and characters are deemed to be “real” (Pers. comm. Rupeni 2003). However, if the actors in the film are recognised as locals the message may not be taken seriously. For example in a fiction film produced by Wan Smolbag on gender, population and land tenure issues, the audience in Port Vila laughed during the murder of a child in a land dispute (Pers. comm. Tari 2003). However when it was shown in the provinces, where the actors were unknown, people were enthralled by the story.

Some feel that the introduction of TV and video into PICs coincided with a loss of initiative and productivity especially among the youth, and the inherent passivity of the media is disempowering, so it should be avoided as a means of education or mobilisation (Pers. comm. Waqa 2003). However it could be useful to allow for stories from communities to be shared regionally. It requires that a functioning VCR and an energy source be made available.

In addition to developing appropriate media to convey messages and information on WSS and hygiene, there appears to be a universal requirement for face-to-face, and preferably on-site training, in design, construction and maintenance. This could include 'train-the-trainers' for fieldworkers, and direct training of householders and community members. Participatory education and information exchange can contribute to the development of ecologically sustainable and empowering strategies to conserve natural assets and enhance quality of life. People learn by "seeing and doing". However it is important that the training is not an 'overload' and gives time for experimentation and feedback (see case studies 5.1, 5.2, 5.3).

3. POTENTIAL CONTENT OF THE 'GUIDELINES'

Sections 1 and 2 of this report explore some of the dilemmas and challenges created by the project goals. As a result of the research conducted and the issues raised, it is suggested that the 'guidelines' are presented, not as recommendations for particular actions, but as a series of questions regarding WSS.

The fieldworker might ask these questions in order to provide direction appropriate to the social and physical assets, needs and constraints of a particular community. This is a strategic approach aimed at working within the traditions and norms of the culture, while maximising the opportunity to address inefficiencies and inequities. It also offers some guidance as to the links between cultural and technical issues, which need to be addressed in PICs, while allowing for the significant differences in socio-economic and physical conditions, which exist across the region. It could be described as a checklist with a storyline. Photos can show people from Polynesia, Melanesia and Micronesia dealing with common water management issues. The use of story telling, while it may be dismissed as merely anecdotal and 'unscientific' has many advantages including allowing important messages which may transgress taboos to be conveyed indirectly.

In this section, the reason for formulating each question is investigated and reference given to some possible answers. The rationale for each of the questions draws on information provided from across the region. Some of the answers overlap, as there are many inter-connected

resource issues involved. The form or media in which this approach could be presented includes illustrated booklets and flip charts supported with simple text.

3.1 Who is respected?

To gain access to a community and ensure support for a programme, an initial step is to identify who is respected, and who may be willing to provide leadership, or at least blessing and endorsement.

A common figure of respect across PICs is the local religious leader. Priests, pastors, pundits, and senior women in church groups are important allies in any WSS programme and they can use their influence by encouraging initiative and requesting co-operation and contribution from their congregation, by giving moral authority to the message, by leading through example, and by supporting pilot projects within their church compounds (Pers. comm. Hausia 1997, Waqa 2003).

There are other respected identities within countries, for example: royal family, nobles and talking chiefs in Tonga; district and village chiefs in Melanesia; town officers; men and women who have attained certain levels of ceremonial status in Vanuatu; traditional artists such as poets, orators, actors, musicians and dancers; and elite sportswomen and men.

It is easier to gain such influential endorsement for water-related initiatives than it is for sanitation programmes, because of privacy and taboo concerns and general avoidance of this difficult subject. However the skilled use of metaphor, common to much formal discourse in PICs, can allow even this sensitive issue to be publicly presented in an inspiring manner (Pers. comm. Hausia 1997, Leha 2003).

3.2 Who understands?

In most instances there are people within the community who have already considered the problem and know what needs to be done. This is certainly the case if there has been an application by the community to government departments or NGOs for assistance in implementing WSS systems.

However there are levels of understanding beyond the perceived need for a particular service or facility. There is local knowledge, past and present, regarding sustainable management of natural

assets and traditional practices, which can be incorporated into management of introduced technologies.

There are also individuals who have experienced the long-term impacts of various kinds of introduced WSS systems. Householders or farmers who have observed increasing salination in the groundwater from over extraction, may be motivated to try water saving practices and devices. A school principal, who understands the demands that flush toilets will place upon water supply and the school budget, could be interested in the idea of trialing an ecological alternative. Fisher women and men who have observed the reef die from nutrient loads, and parents who are struggling with children suffering from chronic diarrhoea may be open to new technology, which protects water bodies from pollution. There needs to be clear practical demonstration of cause and effect to build on these experiences.

Each person's perspective can contribute to understanding the in-puts and out-puts of the catchment. Coverage does not necessarily result in improved family health or protection of the environment. Householder, teachers and schoolchildren can participate in a practical research process, which demonstrates the nature of pollution in the village, where it is coming from, and where it is going. This takes the onus off the fieldworker and allows members of the community, women, men and the youth to design and implement an integrated WSS system to suit their needs and protect their resources (see case study, section 5.2).

Effective technology transfer occurs when families and communities decide for themselves that a practice or technology is appropriate for them, and take the necessary steps for independent implementation.

3.3 Who decides?

In discussion conducted during the Regional Gender and Energy Workshop in Fiji, in August 2003, it was acknowledged among representatives from PICs, that women and men will consult about domestic management, and women will control the finances, but men will usually "have the last word" (SOPAC 2003). Taking this into account, it is essential to ensure that the input of women is maximised to ensure that a well-informed decision is made.

Where decisions need to be made about communal facilities such as a reticulated village water supply, there are various methods suggested to include everyone's input, including working with men and women separately, and having a male advocate deliver the women's point of view, if women are restricted from speaking, such as in the Nakamal (in Vanuatu) or the Maneaba (in Kiribati). There is considerable literature on methodologies for group work, community analysis,

and decision-making such as the Participatory Learning and Action techniques (PLA) (see section 4).

With regard to the implementation of on-site WSS systems, where each household will be making its own decision about facilities and management, house-to-house visits with each of the families concerned, and talking with women in their homes, is an effective method of ensuring a balanced viewpoint. While this might be time consuming, it is worth the effort to achieve sustained technology transfer, particularly in relation to sanitation. This is one advantage of the small populations of communities in PICs: personal dialogue with stakeholders is feasible. Building relationship and trust with women and men from the households is essential to achieving ongoing commitment, and openness to constructive change (Pers. comm. Robinson, Sivoi, Tangi, Nari, 2003). Fieldworkers have commented that information is most effectively conveyed when it is “embedded on trust” where there has been an opportunity of “getting to know each other.....it is wisdom based on trust” (Pers. comm. Waqa 2003).

As reference is often made to the Bible to assert that men are the head of the family “as Christ is the head of the Church”, gaining the church’s endorsement for WSS programmes can give dignity and respect to domestic management of resources and health. It provides an opportunity for an appeal to men and women to perform their respective duties in a co-operative and mutually-supportive manner.

In relation to issues of hygiene and hygiene education, men and women and older children are involved in the care of small children in many PIC families and it is important that men understand and make decisions in this regard in the best interests of the health of their family. Therefore men and boys should be included in hygiene promotion and discussions on beliefs and attitudes regarding the nature of disease and disease transmission, in segregated groups where required.

Different people in the family and community make decisions regarding choice of types of toilets and water supply. Rainwater tanks usually are the responsibility of women who are often involved in groups to raise funding for construction of tanks, flush toilets and bath houses. Private wells are usually the responsibility of the men. Men and boys usually dig and move pit latrines. Reticulated village water schemes involve representation from each family and/or decision-making groups, such as women, church, youth, and elders.

3.4 Who owns the land and the water?

As men throughout PICs commonly own land, it is ultimately their decision regarding the installation of WSS infrastructure, and they will own any facilities that are established. Even where women own land on some islands of Vanuatu, their male relatives can make decisions regarding land usage and management of the natural resources (Pers. comm. Bolenga 2003). In the event of separation or marital conflict, women are protected if they have sons, who will inherit the land, but in some PICs, their situation is more precarious if they only have daughters (Pers. comm. Fileakepa 2003).

There are efforts to rectify this inequity where it exists in PICs, but many men and some women resist this change because they are concerned that their family land will pass through their daughters to in-laws (Pers. comm. Fileakepa 2003). In the meantime women in Tonga are finding ways to circumvent obstacles to their productivity and autonomy by leasing land as a group (see section 5.4).

With ownership of land also comes associated rights over water, and this can result in conflicting demands such as the export of water, which is also needed by the local community. A resident of Fiji, Temakei Tabano, in relation to the ethics of a bottled water business, raised this issue – “People living on the outskirts of the major cities and towns are crying out for water, schools are closed, meetings postponed, farms and farmers are affected etc. and even worse, people living outside of the main island are using seawater for bathing. Water is being rationed and water cut-offs for the main towns are being considered. Where are our artesian water reserves that have been preserved for thousands if not millions of years? Unlike other renewable resources, water should be owned by the people and managed by government agencies. The important point is that a water business has a limited life span while people will continue to use and need water everyday till the end of the world. Do not be blinded with money, but think long and far beyond our present generations regarding this basic need and priceless gift” (Tebano, Small Island Voice October 2003).

Land ownership can affect equitable access to water in various ways. For example a community in Port Vila was prohibited from being connected to a reticulated water supply because a neighbouring landowner requested such high compensation for the pipe to cross his land to reach the community (Pers. comm. Chaniel 2003).

Negotiations concerning land ownership and water are not necessarily divisive. It is reported that in the Federated States of Micronesia, communities which had long standing conflicts and

tensions over land tenure and use were brought together to solve the need for a common water supply and sustainable management (Pers. comm. Ayin 2003).

3.5 Who uses WSS and for what purposes, and where is the demand located?

It is important to consult with all family members regarding usage so that an integrated water and sanitation system can be appropriately designed, and sustainable livelihood can be supported. In addition to the regular domestic uses of water, there are productive uses at the household level, including a range of small-scale activities that enable people to grow food, earn income and save expenditure: e.g. fruit and vegetable production, keeping livestock, making mats and other crafts, and a range of micro enterprises.

In a survey conducted in Ha'apai in Tonga for a UNESCO/SOPAC groundwater pollution study, it was demonstrated that family members use water from different sources for different purposes, and this determines who makes decisions in regard to that resource

The water from the Tonga Water Board was preferred for convenience as it was reticulated, and it was mainly used for flushing toilets, cleaning and watering animals, and during drought for all needs. Rainwater was preferred for quality (purity and taste) and affordability, and is used for drinking and cooking, hair washing, watering seedlings, and the men use it for making kava. Well water was preferred for affordability, reliability, quality (no chlorine, not so hard, inconsistent or salty as the Tonga Water Board supply), and having an established history of usage. The family's ancestors built some household wells in the 19th century. Stern warnings by the local Health Officer regarding pollution of the groundwater by septic tanks and pits could not convince the family to close their revered well. Well water was used for washing clothes, bathing, cooking and watering gardens and animals (Crennan 2000) (see case study, section 5.2).

In Kiribati there are also different uses for different types of water when the choice is available. Well water is used for making toddy because of taste and tradition, even in Tarawa where groundwater is seriously polluted. Men collect the toddy in the morning and evening and prepare it for fermentation, while women use it fresh for cooking and feeding to infants.

In addition to the household uses of water, there are commercial uses such as brewing and bottling beer, cleaning and canning fish, bottling spring water, and providing water to resorts. This raises questions of balancing income generation against conservation and domestic uses. Men and women may have differing views on which use should be a priority. A resident from Kosrae, Andy George writes: "this discussion is quite timely as Kosrae State in the Federated States of

Micronesia is considering a foreign investment proposal for a water-bottling project proposed to be established here in Kosrae. Kosrae is a small volcanic island, only 42 sq. miles in size with a growing population. The water consumption and use at the local community level is increasing every year. Our water resource is a gift from God for our use, not for foreign investors who are constantly looking for opportunities to exploit our resources and make lots of money from them. Who will benefit from foreign investment projects like this one in Kosrae in the long run? Local resource owners may benefit a little and so might our economy, but certainly foreign investors will be richer and much of the project income will be theirs to enjoy” (George, Small Island Voice Oct 2003).

John Maneniaru from the Solomon Islands provides an alternative view on the availability, use and distribution of the resource “water is plentiful on some of the islands. If it is commercialised based on the fact that water is a precious gift from God and should be accessible to all who are in need of it, then this is acceptable. In this regard, I pray that everyone on earth has access to water. Therefore mass distribution of water to the whole world at minimal operational cost would be a great idea (Maneniaru, Small Island Voice Oct 2003).

While this generous view may apply on islands where water is plentiful, for those who live where supply is limited, this generosity has to be qualified. Tetoaiti Tabokai from Kiribati comments “Water is a shared commodity and exporting it for use by others who do not have easy access to water sources is an honourable thing to do. If the water is sold for commercial purposes then there should be a limit made on the amount, in other words a quota should be set so that the locals dependent on the water are first satisfied before extra water is sold. Water used for commercial purposes should be sourced from rivers rather than from point sources such as wells and springs where property rights are concerned. Living as I do on a coral atoll, water is always a problem, especially nowadays with increasing industrialisation and pollution” (Tabokai, Small Island Voice Nov 2003).

Even where water is plentiful such as in Papua New Guinea it may not be distributed evenly either in space or time, or equitably in terms of health and access. Not only do the various WSS demands need to be understood and negotiated in an equitable manner, with due regard to climatic variables, but the location of points of usage, and discharge, in relation to the resource also requires careful consideration in order to protect the rights of all community members and to ensure sustainable management of the catchment. In addition, location and design of facilities should be responsive to the physical and cultural constraints of all users, including the elderly and disabled, women and children.

3.6 Who is responsible?

It is important to ascertain who is considered responsible for the various aspects of water supply and sanitation within a community and ensure that these traditional roles are being enhanced in an equitable manner.

Various family members have traditional responsibility for providing access to a source of water, collection, and related uses. As with many other factors these roles differ across PIC communities. For example, it was reported that in areas of Vanuatu it is a man's responsibility to ensure that his family has a reliable source of water and this is a condition for marriage. In one instance a husband failed to establish a well as promised and this gave grounds for the wife to return to her family. To avoid the divorce her brothers and sisters provided materials and her husband provided labour to dig the well (Pers. comm. Nimoho 2003)

In the Federated States of Micronesia different roles apply on each of the four island States: the men are responsible for collecting the fuel and cooking in Chuk, while the women are responsible for cooking in Yap, Kosrae and Pohnpei and also for collecting the fuel in Yap and Kosrae. Adherence to these traditions also depends on lifestyle and family composition (Pers. comm. Solomon, Chrieg 2003).

3.7 Who contributes?

If WSS systems are on-site they are paid for by the household, or through small grant schemes, often administered by NGOs, where some percentage of funding is provided, and the household contributes the remaining money, labour, and/or food to the labourers who are funded by the scheme. Some materials and site preparation costs are also usually the responsibility of the household, such as guttering and fascia in rainwater harvesting programmes (see case study 5.1, 5.2 and 5.4). Ongoing maintenance for on-site systems is the responsibility of the users.

With implementation of communal rural WS systems, there are similar mechanisms where the community pays a percentage of costs, and funding from donors is allocated usually through government departments. Once the system is constructed and operating then ongoing maintenance is a communal responsibility and this becomes more complex in terms of covering costs and contributing labour (see case study 5.1) (Cretney and Kalmos 2003). (Pers. comm. Green 2003).

Often managing money is the responsibility of women in the household, although men may make the final decision as to allocation, if there are urgently-competing demands (Pers. comm. Solomon, Star, Fatai, 2003). Where cash is available within a community it is likely to be used to make a church donation, as this is an immediate social requirement, before it is used to pay water bills, or to pay for materials to fix the pump, or repair the leaking cistern. Or if water bills are paid, then school fees may be neglected. Paying for water, or for the distribution of water, is usually low on the list of priorities and will only be addressed if it is imminent that supply will be cut off.

There are various strategies being developed in PICs to address financing of rural water supply, especially in partially monetised communities. For example the “identification of various forms of value in the context of water supply and management, and hence its expression among communities in the absence of a market price. It is hoped from this perspective to develop an agreed framework to enable villages and implementing agencies to assess the value of improved water supply and sanitation, and thus the impact of different technology choices, the importance of structured systems of maintenance, and the likely input (as opposed to monetary economic contribution) which rural communities will be prepared to contribute to developing, maintaining and managing their water resources” (White 2003).

Willingness to contribute to maintenance for WSS systems is often affected by the means through which the systems were implemented. A sense of ongoing responsibility appears to be directly proportional to the degree of involvement by the household, or the community, in the planning and construction of the system. It has been observed that “if there has been no sweat, there is no care” (Pers. comm. Mafi, Fifita 2003). Communities, which have been provided with WSS systems through aid programmes, with minimal contribution on their part, often expect the implementing agency to return and undertake repairs, and ultimately to replace the system (see case study 5.4.2).

3.8 Who maintains?

Whoever maintains the various WSS systems, in a family or community, she or he requires technical training to ensure long-term sustainability of their water supply, secure livelihood, and protection of their health. While there is comprehensive documentation of methods to engage communities in planning and evaluation of resource management, appropriate training in technical comprehension and practical skills receives less attention.

It is reported that in the mid 1980s in Tonga women community workers were trained in the construction of rainwater storage tanks and VIP latrines. A six-week training course included

practical construction and maintenance skills, aspects of health and hygiene; financing including costing, budget planning, record keeping and book keeping (Flemming 1987).

The Rural Water Supply programme in Vanuatu is encouraging women to join men in the plumbing training to maintain their water systems (Pers. comm. loan 2003).

These programmes need to be ongoing and updated to include the most recent understanding of the impacts of WSS systems and other village activities on public health and the environment, and these links need to be clearly demonstrated to those responsible for maintenance. Often, personnel deal with water supply and sanitation from different government departments or NGOs, and there is little communication between them. While there may be training for communities in water supply implementation and management, or construction and maintenance of toilets, there is rarely an integrated approach, which assists householders to understand and monitor the impact of pollution from humans, animals, agriculture and chemicals on their water resources. Introduction of a reticulated water supply to a village, however efficiently maintained, can result in a decline in public health due to an increase of untreated waste water, unless both these are addressed at the same time. Even where wastewater is contained and partially treated, for example with a septic tank, inappropriate discharge often contaminates water bodies and presents an invisible threat to public health.

The householder is responsible for maintenance of her/his on-site systems and therefore she and/or he should be the focus for appropriate maintenance training. For communal systems, the relevant village committee usually selects the person who is to receive training and support for maintenance. Part of effective maintenance is being able to monitor WSS. It is possible to teach women, men and children simple accessible inexpensive techniques, which enable them to understand and observe changes in their water quality and environment which may affect their health and livelihood (Pers. comm. Mosley 2003, Pers. comm. McEwan 2003, Sammy and McEwan 2003).

Training in sanitation technology is planned for community members in the Sanitation Park project, which has commenced with SOPAC in collaboration with the Fiji School of Medicine, but this needs to be clearly linked to water supply and an integrated catchment management approach.

In addition to on-site training in WSS for community members, householders should be included in regional training and planning events. People who have taken responsibility for their own or their community's WSS systems could benefit from contact with householders from other PIC countries, in sharing information and experience. Training and fora usually only includes

government representatives. Personnel from NGOs as representatives of civil society, are beginning to be included in these events. However representatives from CBOs such as Town Officers and Village Womens' Committee members, can contribute first hand to a household-centred strategy, and it would also provide recognition of their status as primary water managers.

3.9 Who opposes?

Certain measures, which may be part of a WSS programme, such as including women on water committees, in decision-making, or in maintenance training, will inevitably cause disagreement, and resistance from some people.

Opportunity should be allowed for objections to be aired so that they can be openly debated so that activities are not covertly sabotaged. It has been reported by fieldworkers that initiating personal contact and sharing concerns is the most effective means to overcome resistance, if public discussion has failed.

Opposition may also take the form of conflicting practice. For example a man who cleans cars on a bridge over the Tagabe River in Vanuatu is thwarting the efforts of the catchment protection committee. People downstream are collecting water polluted with oil. It was considered unwise to tell the man to stop cleaning cars because this activity was his means of survival. It was thought he must be acting out of "ignorance and desperation". The catchment committee decided it should help him find a more environmentally-friendly system or provide assistance with an alternative livelihood, for example, through a small grants scheme. A similar conciliatory approach was adopted in dealing with trespassers establishing gardens and growing food on the catchment reserve (Pers. comm. Nari 2003).

When the Tagabe committee was formed they held a stakeholders meeting for the community and the private sector. Community "leaders" were invited and therefore only men attended. It was acknowledged that to engage women the organisers would have to specifically invite them (Pers. comm. McEwan 2003). Their exclusion may result in resistance to any conservation schemes as they have neither been informed of the rationale nor consulted as to their possible objections, or their local knowledge of practices and environmental conditions.

It is reported by government fieldworkers that in the Cook Islands, that environmental education has not changed people's behaviour. Mechanisms for prosecution and enforcement of fines also did not act as a deterrent. In the small familiar populations enforcement is difficult for government personnel. Once again, talking with the offending members of the community on a one to one

basis has had much more impact than the officially sanctioned strategies (Pers. comm. Tangi 2003).

Community monitoring and community pressure on individuals is suggested as an alternative to government intervention. This requires respected and influential members of the community to understand the problem and appeal to enlightened self-interest. Gabriel Victor Titili writes “Proper conservation policies for water sources in the Pacific are required immediately. Logging operations in many of the large islands, e.g. in the Melanesian group of islands, has taken away that very rainforest that retains moisture and prevents direct evaporation of water into the atmosphere. This is a danger to our water resources. Water is a precious commodity and it was given for a purpose. We islanders who are so fortunate to have access to it must protect it” (Titili, Small Island Voice Oct 2003).

Various programmes are focused on the community identifying and solving the problem internally. Three communities in Vanuatu are involved in monitoring the impact of upstream activity on their water resources. Each community is motivated for different reasons such as depending on clean water for tourism, wanting to use the stream for electrification, and attempting to reduce erosion, sedimentation and turbidity from cattle farming (Sammy and McEwan 2003). It is intended that this process will assist communities understand what affects water quality, and how they can better manage conflicting needs. Women, men and children are involved in these monitoring exercises.

3.10 Who benefits?

Undertaking a WSS scheme will have varied short- and long-term impact on members of the community, depending on the way it is implemented, by whom, for whom, for what purpose, and in what location. These factors have been referred to in the previous questions.

In addition to considering who benefits from a water and sanitation initiative, there is also the issue of who suffers if no action is taken? Various reports cite waste from domestic sources as the dominant contributor to pollution in PICs (UNEP 2000). The serious threats to the environment and consequent effect on livelihood have been identified. Similarly, studies show that one of the most significant health costs globally is due to the impact of infectious disease. The context of greatest importance in the spread and control of infectious disease is the household environment, which is where the majority of susceptible people (especially small children) spend most of their time (Khosla 2003(b)).

Diarrhoea is a common infectious condition in some PIC communities. Diarrhoea is not a disease in itself but a debilitating symptom of diseases caused by viruses, bacteria and parasites. As such, addressing the problem lacks the focus of a single organism disease such as AIDS or Tuberculosis. However similar interventions are required to address the prevention of diarrhoea, irrespective of the organism, and these interventions mainly focus on improving the household and communal living environment. Health officials in PICs report that many children in their communities under five years of age have diarrhoeal diseases, and it is a leading cause of death in the population (Pers. comm. Tim 1997, Fonua 1999, Karawaiti 1999), (WHO 2000, [Fiji] Ministry of Health 2002).

Apart from the human suffering involved, these preventable diseases have an indirect as well as a direct impact, which can be estimated in monetary terms. Some communities do not appreciate the direct and indirect cost (time, inconvenience, anxiety about sick children), which they have already been 'paying' because of environmental degradation. For example: having to collect fuel to boil water because it is contaminated; tolerating skin irritations from excessively chlorinated water; suffering from various illnesses related to inappropriate sewage and solid waste disposal; and needing to travel greater distances in order to catch an inadequate amount of fish (see case studies, sections 5.1, 5.2, 5.3) (Saito 1997; Saitala and Paelate 1996; Pers. comm. Fonua 1999, Wan Smolbag 2001).

3.11 What is community and who are excluded?

Having investigated the physical constraints and resources of the location and engaged the various established groups in the community, it is important to explore who is outside the traditional structures, and who, therefore, may not have a voice. This is a universal concern and is not confined to conditions in PICs.

This sensitive issue was discussed in some detail by a fieldworker at the workshop on Water, Communication and the Community held in Suva during September 11-12th 2003. Haouli Vi provided the following case study in her presentation and paper –

“Water and Sanitation are a human right, and if one is trying to get a community involved in understanding environmental and health issues, decision making, access and management, what happens when certain people are excluded or looked down on because of certain characteristics? Not everyone gets to participate even within one culture or country” (Vi 2003).

Communities in PICs are not static and migration and immigration within and outside the country is changing the composition of towns and villages across the region.

Ms Vi examines changes taking place in Tonga “Racism and intolerance is an increasingly important issue as the passage of time has seen a marked increase in Tonga’s interaction with other countries. However, it is still a relatively new concept. There are also growing numbers of overseas visitors settling in Tonga for business and other opportunities. There are also high numbers of Tongans living abroad as is the case in Samoa and other countries in the region. It is therefore necessary that Tongans develop an accepting and inclusive attitude towards living in a multi-cultural society. At the same time, it also applies to other cultures living in Tonga to accept and adapt themselves to the cultures and traditions of the people of Tonga” (Vi 2003).

There are problems of intolerance, racism and prejudice, in any community, which can silence those who are rejected and prevent their contribution to, and participation in programmes to protect natural assets, sustainable livelihood and public health. This exclusion does not just apply to migrants or newcomers, it can also apply to certain members of long-established communities.

“Furthermore, there appears to be increasing barriers of intolerance, whether explicit or implied, within religious belief systems, classification by sexes such as the gay and lesbian associations, specified age groups, and the disabled or the handicapped and such target groups on the periphery of society” (Vi 2003).

This is not only painful and disempowering for those who are excluded; it also dilutes efforts to conduct an integrated approach to catchment management. “There is a lack of general education in schools and within the community concerning racism and intolerance, why it occurs and the harmful effects it has on communities” (Vi 2003).

However significant attempts are being made to identify these complex tensions and find ways of overcoming multiple levels of intolerance.

“In my country, and the same maybe true in the other countries of the South Pacific, there are still many challenges and mindsets to overcome. In the lead up to an event supported by UNDP ACT (Assisting Communities Together) when confirmation was received on the participation of the traditional Tonga Fakaleiti Association, one of the Tongan stakeholder members, from the German Embassy, who fully supported the idea of Multi-cultural Day from the start of the planning stage, withdrew from participating in the subcommittee...the question was asked, ‘Do we tolerate the Fakaleitis or Fa’a Fafine and the encouragement of being gay?’ The theme of the multi-cultural day was then re-emphasised by the organisers, ‘Human Rights Education against

Racism, Discrimination, Xenophobia, and related intolerance'. All members of society are entitled to the right of any human being and the same opportunities are entitled to all" (Vi 2003).

Most groups who discriminate against others can justify their position according to what they consider is 'right' or 'normal'. "I note with some regret that some of the main religious bodies of Tonga such as Wesleyan, the Tongan Constitution, Tongan Chief Church, and the Free Church of Tonga, failed to attend due to the Theme of Human Rights, and also the involvement of the Tonga Fakaleiti Association as its activities are against their religious beliefs. Another impediment for major Christian Churches in Tonga was the participation of the Tonga Muslim Association. At the same time another association refused to sit in or to be present at the television panel discussions due to the participation of the Human Rights and Tongan Democracy Movement because they did not want to be seen making a political challenge" (Vi 2003).

However, for those who did participate in the organisation of the events, and for the wider community who attended, or witnessed the activities through the media, the process achieved its goals of increased appreciation of marginalised cultures and groups, and the benefits of engaging all members of society. Ms Vi concludes, "It created an opportunity for different community groups to work together, encouraging future interactions in the workplace and socially, which includes the environment and public health. There were programmes for Primary and Secondary Schools in the day with essay competitions and posters on the theme...and in the evening there were stall exhibitions with performances by other cultures and schools and associations including the Muslims and Fakaleiti. It was an evening of getting together and breaking down the barriers of racism and discrimination...It was a night that brought tears to everyone, especially with the participation of the Disabled Children's Association who won the essay competition" (Pers. comm. Vi 2003).

3.12 What is sacred?

To ensure long-term sustainability of water resources it is important to tap into the cultural and spiritual significance of water. This essential aspect was examined in the Water and Culture sessions in the World Water Forum at Kyoto in 2003 and was a much needed balance to the 'Water as Commodity' approach of many of the other themes.

With the introduction of reticulated water supply systems, particularly if payment is involved, people often feel the common resource is no longer their responsibility. People do not report leaks beyond their own meter, and protection of the communal reserve from pollution or over-extraction is often not a priority (White et. al. 1999). This disinterest in "the commons" does not

just relate to water resources in PICs. In some instances Government-controlled resources are considered to be 'owned' by government employees, who are seen to be simply acting in the interests of their extended families (Pers. comm. Tim 1996).

Paying for water is seen as a contradiction of its value "as a gift from God". Reference to the sacred nature of water in the local context is one potential way of re-inspiring a sense of universal connectedness and responsibility for this natural asset (Crennan 1992).

Understanding the geography, geology and hydrology of a village location can be achieved by the exploration of sacred places, the significance of certain landforms and water sources, their traditional names and associated stories. Some of this knowledge belongs to specific families and cannot be shared but the information that is communally available can be drawn on to inform and support sustainable strategies in WSS (Pers. comm. Hausia, Karawaiti 1998, Ayin 2003).

For example, rather than closing private wells, which have been used by families for hundreds of years, in order to avoid the use of groundwater polluted by conventional toilets, it is preferable to address the source of pollution. A 'dry' above-ground toilet such as the composting toilet could be used instead of pit latrines and flush toilets. This allows households to keep their independent access to cherished well water, and increases motivation to protect the groundwater as a family and community asset.

As a predominantly Christian population, Pacific islanders are accustomed to many religious references to the sanctity of water, beginning with the initiation of a newborn child through baptism. There are also living examples of ancient significance that predate Christianity. For example in Nuku'alofa in Tonga, the lens under the town is considered to be polluted from septic and pit toilets and other domestic activities, and the use of household wells is strongly discouraged. However certain wells are maintained and used for purification and cleansing particularly in relation to healing of the eyes (Pers. comm. Vi, Fileakepa, 2002). Young men and boys who climb down into the wells for repair and cleaning are respected and sought after for their skills.

Understanding local taboos is especially important in regard to sanitation. This may determine where WSS systems can be located, who can use them and when, who can talk with whom about what subject, and who can collect samples for pathology testing, and from whom. Taboos can be supportive in addition to being prohibitive. For example, menstruation houses in Micronesia offered women a respite from their responsibilities, a venue to discuss community events, and a safe place to rest (Pers. comm. Ayin 2003).

Traditions, which enshrined sustainable management of natural assets, are not far below the surface of introduced values. A story about a spring in the Central Province of Papua New Guinea reflects a dilemma common to many PIC communities. “About 7 km inland of my village, Pelagai, there was once a water spring called ‘Nalu Golo’ (literally translated as ‘water mountain’), at the bottom of a small mountain ridge in what looked like a large hole. It bubbled over into an adjacent marshland where many animals and plants lived. I passed this spring on the way to visiting some of my family members and we would stop and carry water from the spring. There were codes of conduct or rituals that one had to observe before taking water. One had to thank the spirit of the land by looking up to the sky and down to the spring and ask permission to fetch water for drinking. Several large coconut shells were always there to carry the water. Bathing or washing in the spring water was strictly forbidden.

In 1968, a road to my home village was constructed just above the spring. The foreign company that constructed the road pitched their camp by the spring and used it for their daily use. In 1969, I drove past the water spring and stopped. I noted the rate of bubbles in the spring had slowed down. I decided to keep an observation diary.

In 1974, I noted that there were no bubbles. In 1979, the big hole had almost dried up, but reeds and grass were still growing in and around the spring. In 1984, it had completely dried up. In 1989, I noted that a fire had burnt the reeds and grass around the spring. In 1993, I noted that the hole had become an ordinary mountain side subjected to fires during the dry season. I stopped keeping an observation diary.

Why an observation diary? In Keakalo philosophy, land is mother, water is father, and sky is an enclosure of spiritual beings from our ancestors, the guardians of land and water. Land and water are not goods for sale. Land is life-bearing, while water is life-giving and both are under the sky. All the living things including humanity are controlled by the spirit of the dead. Today I am still wondering why the spring disappeared? I hope this tells the spring’s story.” (Mali Voi, Small Island Voice, November 2003).

3.13 Who will still understand in 5 or 10 years?

Even in the most effective community-based programmes, long-term follow up and reinforcement is necessary, particularly in relation to the introduction of new or alternative WSS technologies or systems of management. People move on, the reason for avoiding or adopting certain practices is forgotten, and environmental and economic circumstances change. Some kind of mechanism needs to be built into implementation which allows for a village to be revisited every couple of years (see case study, section 5.2).

Donor, government and non-government organisations should keep their records updated and be aware of activities and strategies, which have been undertaken by other agencies. Connections need to be made between water and sanitation programmes and other resource management initiatives.

4. USE OF 'GUIDELINES' IN PICS

Personnel from Government departments, NGOs, regional organisations and donor agencies provided information on materials, manuals, guidelines and checklists, which they use in their WSS or resource management programmes. Their generous assistance is gratefully acknowledged. A record of responses to questionnaires is provided in Appendix B. Some of the materials and approaches are briefly discussed in this Section. Personnel who provided input to the research are listed in 'Personal Communications'.

4.1 Materials used/developed by funding agencies

The donor organisations that responded to requests for information were AusAID, ADB, World Bank, and NZAID. See Appendix B.1 for response from personnel at funding agencies, to the questionnaire.

Donor agencies working in the Pacific region have in recent times developed gender and water guidelines, which are required to be followed in their projects. These are usually generic in content, literary in format, and some appear to be largely borrowed from development agencies in Europe. Because of the content focus and presentation, it appears these guidelines are unlikely to be utilised by local PIC fieldworkers outside a prescribed programme.

Their primary use is for external advisers from the donor countries who may be in need of awareness raising and direction in regard to community equity. In regard to gender concerns, there is often a male dominance of the water industry in the Pacific donor countries, such as Australia, New Zealand and the US. However the attitudes, prejudices and experience of the expatriate advisers, female or male, are the critical factors, not their sex.

The gender guidelines for water and sanitation produced by donors, at the very least, aim to avoid contributing to inequities in communities. "WSS projects are increasingly demand-driven. Projects have to be responsive to the articulated demands of users. If women play a minor role in community decision making, they may well be marginalised under a demand-driven approach unless steps are taken to include them" (AusAID 2000). This reflects an intention not to repeat the mistakes of the past where planning and implementation of WSS were usually conducted by men, which often resulted in gender blindness. "There are countless examples in the developing world of failed WSS projects-piped water systems that no longer carry water, broken hand pumps and toilets that are never used. In many cases WSS facilities have failed because not all members of the community, and particularly women were fully involved or fully committed to the project" (AusAID 2000).

The ADB publication, 'Gender Checklist: Water Supply and Sanitation' is designed for staff and consultants to "guide users through all stages of project/programme cycle in determining access to resources, roles and responsibilities, constraints, and priorities according to gender in the water supply and sanitation (WSS) sector" (ADB 2000) The booklet is pocket sized and 26 pages in length. It could be easily carried in the field.

Even where these guidelines exist the message contained therein needs re-enforcement and supervision to ensure staff and consultants understand what gender equity actually means in practice, and why it is a priority.

Some international agencies are involved in an advisory role to ensure gender equity principles are applied in practice. For example "Sustainability Planning and Monitoring in Community Water Supply and Sanitation" is produced by the Water and Sanitation Programme (WSP), which is a global partnership housed in the World Bank and managed by World Bank staff. The publication summarises WSP's experiences, in addition to their operational strategy regarding gender and poverty issues in community (Mukherjee and Wijk-Sijbesma, 2003). However it is reported by WSP personnel that the content of the publication does not represent the official World Bank position on these issues. A range of bilateral donors funds WSP's activities. WSP works with and influences World Bank projects in Asia, Africa, and Latin America, and sometimes task-manages some World Bank projects where these gender approaches are applied on large scales. Through

the partnership, WSP also influences projects funded by many other aid agencies besides the World Bank, including AusAID. The guidelines are currently being used in World Bank and AusAID-funded projects in Indonesia, Laos, Cambodia, Vietnam, and the Philippines and through other donors in Africa and South Asia. However the guidelines are not as yet being used directly in the Pacific (Pers. comm. Mukherjee 2003).

When asked how it is ensured that the World Bank and other funded projects follow the guidelines/strategies which are summarised in "Sustainability Planning and Monitoring in Community Water Supply and Sanitation" one of the authors responded as follows: "they have to be built into project designs, i.e. mentioned specifically in project concept documents and project appraisal documents, and described in Project Implementation Plans (PIP). Thereafter funds need to be allocated in cost tables during project preparation and negotiations, for capacity building at all levels of implementation, and project performance indicators agreed in PIPs to monitor progress of adoption of the guidelines and their impact" (Pers. comm. Mukerjee 2003).

4.2 Materials used/developed by NGOs

Some of the material that is used by NGOs has been developed or adapted within PICs and is based on experience in the field by local community workers (Pesto 2003). It provides valuable insights into Island concerns and priorities (see Appendix B2 for feedback on the questionnaire from NGO personnel).

Most of the material, which was reviewed, is focused on methodologies for community engagement in general, rather than for WSS in particular. For example, "Participatory Learning and Action (PLA) – a trainers guide for the South Pacific" is intended for use "for any subject matter such as natural resource management, health issues, community development, eco-tourism, social issues, waste management, agricultural development". The manual recommends training community members to conduct the PLA training. "This achieves sustainability through capacity building because they have a vested interest in the community...and the best understanding of their culture and community life...resulting in trained individuals from the community who can continue to work with the people to develop their own projects that meet their needs".

This PLA manual was developed in Fiji as a result of conducting PLA projects in local communities and observing that the techniques ensured that all the voices in the community were heard. Practitioners "recognised that women's interest, use and knowledge of the environment is different from that of men, and women should have a voice in the community decision-making

process. In the past, development at the community level was mainly initiated by the 'experts' in development organisations. Community consultation, if any, was limited to the community leaders who were often older men. Women in the Pacific have generally been excluded from the decision-making process in relation to such issues as land use and natural resources" (Ecowoman 2000).

Fieldworkers from Partners in Development have used PLA methodologies in their work with communities in such programmes as the Waibulabula (Living Waters) Project in Fiji and have found it to be an effective tool for themselves as practitioners, and the people they are working with (Pers. comm. Sivoi 2003). They were trained through SPACHEE in preparation for the Coral Reef Management programme in 1999 that aimed at "empowering local communities to reverse the decline of coral reef systems in Fiji" (Govan 1999). It is reported that staff are now taking their experience into ongoing programmes on the outer islands, which involve coastal resource management, and related water supply and pollution issues. Field workers emphasise the need for conflict resolution skills in resource management programmes. Sanitation issues are considered to be particularly challenging because of cultural barriers and it is suggested that they are to be addressed indirectly, for example through a marine protection programme. At the same time practical treatment models are required for demonstration, such as the artificial wetland at the Shangri-La resort in the Waibulabula Project (Pers. comm. Robinson 2003).

The Community Environment Workshop Handbook for Women is also produced by Ecowoman/SPACHEE, and provides clear and practical guidance for identifying and solving resource management problems in the workshop context. Examples are given of activities to address a wide range of issues including WSS, waste management, making money through weed control and setting up a marine reserve (SPACHEE/Ecowoman 2000).

There is a strong emphasis on self-reliance in most of the locally-produced guidelines. A handbook from the Community Development Initiative Foundation (CDIF) in PNG opens with the following advice to fieldworkers in regard to their initial contact with a community "This is the first attempt to make dialogue between you and the community as equal as possible. You have not talked about anything that the community can strongly hold onto as far as cargo or expectations. You have made NO PROMISES. You have only talked about helping the community to help themselves" (Pesto 2003).

The process outlined in the CDIF handbook does not focus on needs, but rather on analysis, for example in reference to water; "people cannot identify water as a problem. Water is not a problem. What exactly does the community mean? Often times people say money or lack of money is the problem. How do they think money will solve the problem. Community Development Officers/workers must take the community through a process of getting to the real problem." Then

it is recommended that the fieldworker should leave for some time and see what the community decides to do on their own. The community should be able to rely on the fieldworker to return when promised but not to become reliant on their input in order to act. The handbook concludes with a warning: “Expatriates should not go into the field. The sight of an expatriate raises expectations to many communities in this country. It can also undermine the work of the community development workers. The community development workers will be seen as men and women working for the expatriate” (Pesto 2003).

Some manuals are focused on specific resources such as “Managing Local Knowledge for Plant Conservation and Ecology”, however the approach is aimed at a holistic and inclusive understanding of the relationship between the human and natural environment and a fundamental recognition of local skills. “Every culture has a world view. This perspective tells people what is important and why. Part of this view is the knowledge and skills to survive in their environment and includes skills in food gathering and preparation, fishing, weaving, carving and giving health. Such skills are important to learn and conserve because they enable one to become capable on the land while learning to enjoy, understand, respect and appreciate the land” (Goodwillie and Tabunakawai 2000). All the programmes conducted by WWF in Fiji follow the PLA methodologies. Fieldworkers report that the guidelines used by the organisation strengthen their capacity, and that they are ‘enriched by a 50/50 approach’ in working in partnership with communities (Pers. comm. Namata 2003).

The Village Development Trust (VDT) in Papua New Guinea focuses on eco-forestry while also having an integrated approach which “is the wise utilisation of forest resources including water shed management for better rural homes and water supply and sanitation programme to complement the Eco-home concept”. The VDT hopes to develop more specific recommendations for WSS in the near future (Pers. comm. Kamal 2003), (Waria Valley Habitat for Humanity 1998).

Water for Survival, an NGO based in New Zealand, with activities in Asia, Africa and the Pacific utilises guidelines produced by the Voluntary Agency Support Scheme (VASS), entitled ‘Participatory Appraisal Monitoring and Evaluation (PAME)’. Water for Survival is partially funded through donations, and for every dollar raised, they receive two dollars in subsidy from VASS which is an NZAID scheme. In order to continue to qualify for this support they were required to comply with VASS gender policies, and in 1998 conducted training workshops for their fieldworkers, in this regard (Pers. comm. La Roche 2003) (La Roche 1998). In 2002, further training was conducted in monitoring and evaluation using the PAME methodology which is considered to be “a tool for the analysis of the causes of poverty, and the sources of subordination and oppression. This aspect of empowerment may threaten the status quo and existing privilege, which can create fierce resistance from those advantaged by current systems”

(VASS 2000). The workshop training and course materials included collecting baseline data on the following:

“Health

- Priority health problems according to age, gender, social group;
- Relative importance of water and sanitation related diseases;
- Local names/classifications of water and sanitation-related diseases, when they occur, who is affected;
- Knowledge and perceptions with respect to water and sanitation-related diseases, their causes, modes of transmission and treatments (all social groups);
- Gender roles in respect of health and hygiene;
- Existing health personnel in locality (government, non-government, formal, informal);
- Existing health education activities in locality;
- Evidence of community interest and participation in health issues; and
- Existing channels of communication which people use and trust.

Sanitation

- Location of latrines and/or customary places for defecation;
- Latrine cleaning, maintenance and emptying practices;
- Existing defecation practices of women, men girls and boys;
- Methods of disposal of children’s faeces;
- Cultural beliefs and taboos related to defecation; and
- Environmental sanitation issues.

Handwashing

- Hand washing practices (where, how, why) according to age, gender, social group;
- Cleansing agents used; and
- Perceptions of clean and dirty hands” (La Roche 2002).

While it is essential to understand cultural preferences, attitudes and practices in relation to WSS, obtaining information about these personal aspects of people’s lives can take many years of relationship, and may be perceived as an invasion of privacy and transgression of taboo (Crennan 1995, Berry 2000).

4.3 Materials used/developed by Government Departments

The school of Public Health and Primary Care (SPHPC) is a subsidiary of the Fiji School of Medicine. SPHPC is offering a course in Project and Participatory Management, which aims to provide health workers with skills to undertake a participatory approach to development “by the people, for the people unlike the old practice of, by government for you” (see Appendix B3 for government responses to questionnaire).

In addition to teaching a number of common methodologies such as PLA, Problem Tree, and Programme Monitoring and Evaluation, the course explores the notion of ‘development’ from the PIC perspective. “The greatest challenge for us as Pacific people is to attempt to define our own development and distinguish how far we can be ourselves and where to import Western thinking” (Fiji School of Medicine 2003).

A writer and teacher of the course considers that fieldworkers are the servants of the community who should be listened to, and that it is “the experts who are a hindrance to the community” (Pers. comm. Kudridrani 2003). Health issues are not seen in isolation and work conducted by her students through the Fiji School of Medicine has included income-generation schemes such as planning for the opening of a forest eco-park, women selling flowers to a nearby hotel, and youth engaged with subsistence farming and waste management. The first course was undertaken in 2002 and the students conducted nine projects in the field. At the end of the project the communities and students had developed a community profile, an action plan and a fully-developed project proposal.

UNDP/UNAIDS has funded a training course for personnel from twenty NGOs from Fiji and Vanuatu, conducted through the Fiji School of Medicine. A training manual will be developed from the course after one year of monitoring and evaluation (Pers. comm. Kudridrani 2003).

The Environmental Health Section of the Department of Health in Papua New Guinea produced a Village Leaders Handbook, which focuses on local leaders facilitating initiatives within the village rather than extension workers guiding activities. Among other recommendations for effective communication and management, the guideline advocates allowing all parties to have input: “involve important community groups in the area such as women, youth, church etc”, but does not place any particular emphasis on the contribution of women. The publication has large well-spaced print and illustrations on most pages depicting Melanesian men, women, and children in relevant activities (Department of Health 1988).

Materials and approaches utilised by government departments involved in rural water supply in Vanuatu and Tonga are referred to in case studies, section 5.

4.4 Materials used/developed by Regional Organisations

Regional organisations have been involved in developing material to be used by fieldworkers in WS in member countries. This study, conducted by SOPAC, is an exercise in that regard.

SPREP

SPREP has recently released a draft Tool Kit to support fieldworkers in the International Waters Programme (IWP). “This toolkit is a compilation of material primarily developed for a series of four sub-regional two-week workshops involving participants from fourteen Pacific Island Countries held between May and August in 2003. The participating countries were Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Marshall Islands, Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu.

The sub-regional workshops were entitled ‘*Train-the-Trainer Workshop in Stakeholder Participation, Facilitation and Social Assessment*’. The objectives of the workshops were to train participants as either trainers, or facilitators, in participatory-planning processes and activities for community-based resource management initiatives supported by the International Waters Programme (IWP). These processes include stakeholder participation, social analysis and baseline assessments, participatory problem analysis, project mapping and design” (SPREP 2003).

Staff of the Project Coordination Unit and two trainers were involved in preparation and production of training materials and resources and delivery of these workshops.

The two-week workshop was a demanding and intensive instruction in a comprehensive range of common participatory techniques (Pers. obs. Crennan 2003). The workshop participants practiced some of the techniques by applying the principles to the communities/locations, which they had selected for the IWP pilot projects in their home country. Those who had not yet selected pilot project sites used the techniques to examine the short list. Some participants have commented that the training was much more useful than a conference where “there was only talk”. They appreciated the trainers coming to their country, (host country participant) and the participatory nature of the workshop itself. Others have remarked that although they “learnt a lot” the instruction may be “too much to try in Pacific communities.”

The draft Tool Kit has been offered for anyone to utilise with a request that the source is acknowledged and feedback given to the Project Coordination Unit. As the pilot projects within the IWP are at very early stages, or yet to commence, it is difficult to evaluate how the training or the Toolkit has contributed to experience or effectiveness in the field.

Through a rigorous preparatory process conducted over the last two years, IWP participants have selected their focal areas and pilot study sites. Five countries have selected freshwater resources as the focus for their pilot project: Fiji, Papua New Guinea, Samoa, Vanuatu, and the Cook Islands. Seven countries have selected waste management as the focus for their pilot project, the four of these countries have nominated freshwater as a secondary focus, indicating that water pollution and possibly sanitation are likely to be addressed. The four countries with a secondary focus on water are Tonga, Tuvalu, Kiribati and Nauru. The experiences from these pilot projects will be thoroughly documented and should provide valuable case studies on the implementation of community-based WSS programmes in PICs.

The IWP is also in the process of developing a Social Marketing Toolkit “which makes use of methods from the commercial sector to promote change at an individual, community and societal level. It uses commercial principles and processes to try and change the behaviour of target audiences by promoting benefits and reducing the barriers to change.

The objective of this project is to produce a Social Marketing Toolkit which will assist Pacific countries, and other development agencies in the Pacific region, to improve the effectiveness of their environmental awareness and education activities” (Pers. comm. Menzies 2003).

Under the ‘Train Sea Coast’ theme of the IWP, SPREP is collaborating with a number of organisations to develop a course to train project managers and other resource managers on how to incorporate economic considerations in their community-based environmental management projects in PICs. The course is for graduates permanently based in the Pacific, and was conducted at USP in Suva in February 2004. The agencies that collaborated in this exercise were:

- South Pacific Regional Environment Programme (SPREP) in Samoa, through the IWP;
- University of the South Pacific (USP), through the Marine Studies Programme (MSP); and
- Australian National University (ANU), Australia.

SOPAC

SOPAC’s Water Sector is involved in various communication programmes such as producing the Water Education and Awareness Kit. The kit was developed in collaboration with SPREP and it

contains a series of fact sheets with corresponding activities that deal with a wide range of water issues e.g. water resources, water conservation and pollution, wastewater and sanitation. The kit is suitable for different age groups and is used as a tool in schools.

SOPAC have also taken the lead role for World Water Day (WWD) activities in the Pacific region. WWD, a UN initiative is an annual event and celebrated globally on the 22nd of March with a different lead global agency each year and different themes. Past themes have included Water for the 21st Century (2000), Water and Health (2001) and Water for Development (2002). SOPAC's WWD campaign activities for the region in the past have included development and dissemination of publication material, and regional school competitions.

In 2002, SOPAC collaborated with Live and Learn Environmental Education to include the WWD message and other water issues in the school curricula and to conduct teacher training workshops using the material developed for WWD 2002. This "train the trainer" was considered a more sustainable approach. This WWD collaboration continued in 2004.

Collaboration has also been undertaken with the National Centre for Health Promotion (NCHP), which is the Awareness section of the Ministry of Health in Fiji. SOPAC is represented on their Environmental Health Advisory Committee, which is concerned with the promotion of Health Awareness in rural communities. The main goal of the Committee was to improve the health status of rural communities with regard to preventable diseases that are associated with water and sanitation. SOPAC's main involvement was to provide support in the development of publication material namely, posters, leaflets and fact sheets with clear messages.

In 2002, SOPAC worked with the Asian Development Bank to conduct regional consultations on WSS as part of preparations for the World Water Forum in 2003. A Pacific Regional Action Plan on Sustainable Water Management (Pacific RAP), evolved from the consultations, endorsed by 18 PICs, some at ministerial level, most at Head of State level, and also endorsed by Australia and New Zealand at Head of State level (Forum Leaders Meeting, Auckland, August 2003). Effort was made to ensure that civil society was involved in country reviews and well represented at the regional meetings, and recognition of the essential role of NGOs and community-based organisations was firmly endorsed in the RAP.

SOPAC supported the attendance of country fieldworkers at a recent workshop in Suva on "Water, Communication and the Community" organised by the Australian National University ([Australian National University] Development Studies Network 2003). Facilitation of workshops by Pacific Islanders should be encouraged, whatever the current skills of participants, as capacity can only be gained through experience. Fieldworkers from PICs benefit from the opportunity to

actively participate in their own review, and can be offended if this process is controlled by expatriates, however well meaning (Pers. comm. Vi 2003).

Potential outcomes from such a gathering are significantly increased if participant input is self-determined. This requires allowing sufficient time for the workshop to be appropriately designed. To be effective, international workshops of this kind should be conducted to maximise the input of country participants particularly reticent contributors, in whatever mode is most comfortable for them, and with due recognition that business is conducted in English, which is a second language to most participants. Pre-conceived agendas, particularly those of the host organisations, should not be allowed to dominate proceedings. These basic principles of inclusion, transparency and facilitation apply at all levels of consultation and communication whether it be in community gatherings, regional workshops or high-level international meetings.

Over a number of years SOPAC personnel developed a Gender Policy, which was finally presented in an updated form to member countries at the Annual SOPAC session at Niue (SOPAC 2003) in October 2003. After some discussion and resistance, the policy was endorsed for implementation with provision for ongoing review. The policy was developed with support provided by the Forum Secretariat through its Gender Adviser, and the input of other relevant individuals and organisations such as UNIFEM and UNDP. In developing this policy SOPAC is performing its role of facilitating the translation and implementation of regional and international agreements from such fora as the World Summit on Sustainable Development and the Kyoto 3rd World Water Forum (Pers. comm. White 2003).

The implementation of the Gender Policy within the SOPAC Secretariat includes establishing a gender focal team, training of selective staff within each programme and annual reviews and reporting to the Director, Executive Management Team and Council. Extending the principles of the policy to in-country activities will depend upon local attitudes and responses, but at least SOPAC is attempting to put its own house in order.

The project, which is the subject of this report, is conducted through the water sector, which is now a component of the Community Lifelines Programme, and represents SOPAC's ongoing commitment to facilitate sustainable water management at the household level, through to the national and regional level.

It is intended that this project will build on and highlight the considerable experience in community-based programmes in PICs which has been identified in the review process. Materials, which could be developed from this project, may contribute to addressing gaps which

appear to have emerged from the project research, by focusing on the practical nexus between technical and social science in relation to WSS in PIC communities.

There is substantial international and local literature on participatory processes for general resource management, including a number of guidelines/checklists for gender and WSS in particular, and a variety of technical manuals for toilets and water supply systems. However there appears to be little material, which addresses typical WSS scenarios in the small-island context. It appears that there is a need to provide fieldworkers with something familiar which they can relate to, which identifies likely technical and social obstacles or opportunities which they are likely to encounter when designing or implementing programmes aimed at sustainable water management for all members of the PIC community.

5. CASE STUDIES

The following case studies were chosen to illustrate a range of activities in PICs, which involve communities in the planning, implementation, and management of WSS. Due to time, logistics and budget constraints it was only possible to examine, first hand, a few programmes by visiting the relevant countries, and meeting with the people concerned. These particular case studies were chosen partly because the author had some previous contact or involvement with the programmes or the fieldworkers and was able to draw on contacts and information gathered in the past to help review current status, process, challenges, and longer-term impacts.

There may be many other programmes in PICs, which provide similar or more useful lessons, and any information on other examples is welcome. It is imagined that key aspects of these case studies could be included in the recommendations or 'guidelines' explored in section 3, and presented through photographs, video, drama and experiential training.

5.1 Managing Rural Water Supply (RWS)

Aspects of a government RWS scheme in Vanuatu are summarised and a brief comparison is made with RWS schemes in Tonga.

5.1.1 Rural Water Supply in Vanuatu

The Rural Water Supply Section (RWSS) in Department of Geology Mines and water Resources (DGMWR) in Vanuatu is the government department responsible for delivery and sustainability of rural water supply systems. Individuals, communities, NGOs and religious institutions are also engaged in establishing water supply systems, which are sometimes inappropriate and/or poorly constructed.

Government responsibility

NZAID has supported a programme of capacity building for DGMWR since 1998. The building and upgrading of WS systems is generally funded by external donor agencies from New Zealand, Australia, Japan and Canada. Communities contribute labour, accommodation, and food to the building contractors and to DGMWR officers during construction. Donors are increasingly of the view that they should only fund installation of new systems and from that point onwards the community should take responsibility for long-term management (Cretney and Kalmos 2003).

A programme to standardise the quality of water supply systems has been established which includes the establishment of a Rural Water Supply Officer (PRWSO) in each Province, and the publication of a design and construction manual for infrastructure. It is the responsibility of the PRWSO to ensure that communities are trained in the construction, maintenance and management of their system.

WS construction manual and community development training

The step-by-step construction manual, funded by NZAID, is lengthy and detailed and contains technical drawings, advantages, disadvantages, and costs of the following systems: direct gravity feed; indirect gravity feed; hand pump; and rainwater catchment. There are photographs of Ni-Vanuatu engaged in various stages of construction (Visser 2001). However much of the information is transferred through training courses. There are six provincial plumbers who teach maintenance skills to communities, and a community development worker who conducts Water Supply Planning Workshops with communities who are to receive assistance from DGMWR to establish their water supply. A 26-page manual has also been developed in Bislama to provide guidelines for the planning workshop “Komuniti Divilopmen mo Wota Suplae Planning Workshop” which is recently being conducted prior to construction (Rural Water Supply Section 2001). The one-week workshop covers the following:

- role and activities of Rural Water Supply Section;
- process of request to the Department for assistance;
- what the department expects the community to contribute;
- resource and historical map of the village;

- daily calendar of activities of men and women;
- skills of community in building plumbing. etc;
- roles and responsibilities of women and men in community;
- SWOT analysis of proposed water supply, including land tenure and resource tensions; and
- selection of water committee, each group from the village nominating a representative.

Water committees

There has been considerable emphasis on the need to establish water committees and include women on these committees. This policy flowed from similar developments in Africa which were considered to be successful, and have been promoted by WEDC, IRC and the World Bank.

The village Chief in Vanuatu communities has sometimes resisted this inclusion of women on water committees, but personal communication by the fieldworkers has usually resulted in agreement to trial women on the committee. When this has produced a positive outcome, the Chief has been more convinced that it is beneficial to the community (Pers. comm. Kalmet 2003). Sometimes women who have been nominated have declined because they feel they have too much work to do. In some cases it has been agreed to include women because the community feels they may not get assistance from RWSS if they do not comply with the programme criteria (Pers. comm. Kalmet 2003). In other cases the process of the workshop has resulted in respect for the work which women do, their essential involvement with water and sanitation issues and their skills in domestic management, and the community has understood why women should be represented on the committee (Pers. comm. Daniel 2003).

In some villages, despite the efforts of the fieldworkers, only men are on the water committee. They are selected from each of the Nakamals in the village and therefore are seen to represent all the people in the village. The prohibition on women speaking in the Nakamal is often given as a reason for women not being selected to the water committee. In a survey conducted in 2001 by Wan Smolbag Theatre Research Unit, (who were responsible for the WS education programme), none of the seven villages covered in the report “have, or ever have, had women on their water committees. The reasons given for this were:

- There would be difficulties for the men and women to work together;
- The women were too afraid to join the committee (a statement made from the male committee members); and
- Women do not have the right to be on the committee because they are not ranked through custom” (Wan Smolbag 2001).

Some men also commented that there was no point in women being on the water committees because their opinion would not be listened to, and they are just as resistant as the men are to

paying their contributions to the water supply fund (Pers. comm. Dorras 2003). The Wan Smolbag survey eventually covered fifty-nine villages over five provinces “and drew attention to the need for communities to better understand their role in owning and maintaining their own supply, and in understanding the health issues linked to clean water” (Cretney and Kalmos 2003). Wan Smolbag used the research to plan a strategy to deliver appropriate messages to rural Vanuatu communities, about gender, maintenance of WS, sanitation and related environmental issues. A serialised radio drama, which has been running for two years, covers many of these issues in an entertaining medium.

It was observed that “water committees had not had success in many villages due to mismanagement of funds, and/or lack of ownership of systems by the women because they were not part of the decision-making process”.

There are villages where the water committee had ceased to function and a group of households has taken over care of their water supply. Others only raised money when repairs were necessary, to avoid collected fees being used for some family purpose by committee members. As there is usually no bank to deposit the money, it is often too much of a temptation to have spare cash kept in somebody’s home. Some villages do not have a communal WS system so do not need a water committee, for example, in the large village of Vasoro (300 people – 45 families) “the people were happy with their system of hand-dug wells and private rainwater catchments”. Some villages do not have a special water committee, but water supply is dealt with by the committee that handles all the village’s affairs (Wan Smolbag 2001).

Are water committees the only management option?

The question arises: if there is such variation in response to the requirement for a water committee, and villages are assessed primarily on whether or not they have a well functioning water committee, is this necessarily the only option? Should people be encouraged to utilise and develop their own systems of management, rather than a donor- or government-driven solution? When WS systems were installed by DGMWR, the village “was told that they should form a water committee to collect funds to do maintenance and repairs and were also told how to maintain and fix the tanks. But this never worked and now a cluster of households has decided to take care of their water supply and work together to raise funds and maintain their system” (Wan Smolbag 2002).

In a further survey conducted in 2002 for DGMWR, of seven communities (other than those surveyed by Wan Smolbag): three villages had two women on their water committee (these three villages had community development training and their water systems installed or upgraded in 2002); one village had women on their ‘shadow’ committee which collects fees but not in the

decision-making group (system installed in 1989); and in two villages there were no women involved (systems installed 1989 and 1999). Women reported that it was much easier for them to contribute if there were at least two women on the committee.

This second review was conducted to gain information for the design of a training programme to assist the committees to achieve sustainable financial management of their WS. During the survey women were asked what changes had occurred since the water supply had been built or upgraded and some noted a decrease in water-borne diseases, and that time taken to collect water each day had been significantly reduced.

It is proposed by the review team that the financial management programme be trialed over one year using a number of “approaches which are appropriate to the differing skills levels, wealth and circumstances of the villages”. The programme aims to develop a system, which would “train communities to run a committee, collect and accumulate fees, estimate and plan for maintenance requirements, account for spending on water-supply maintenance, and report to the community. The training programme must be able to be applied nationally to all communities with or receiving a water-supply system. The training programme must proactively promote the participation of women. The resultant training programme is to meet donor-funding requirements” (Cretney and Kalmos 2003).

Fieldworkers' experience with community development in WS

In discussion with the hydrogeologist from DGMWR regarding the rural water supply programme, the following observations were made: she would like to “go in early and sit with the community” to see how they function a week or so before even starting the introductory workshop; it is better to have a trainer come from outside the village as they will not be subject to the same constraints as a community member, but that the trainer should not be an expatriate; she encourages village women to speak out in the WS Community Development workshop, and challenges the Chiefs to let women be on the water committees, but within her own family she would not question the status quo “because of respect.” Follow up and monitoring by the DGMWR is needed because once the WS system is installed the fieldworkers do not come back and therefore they do not really know what impact the water committees have, or what problems may occur with the WS system.

A fieldworker from the NGO, Live and Learn, who sometimes works in the villages with the RWS team, feels that attitudes regarding the participation of women in decision-making is changing, and varies across the islands, due to girls receiving an education and their acquired knowledge being accepted. Having an aid-tied requirement that women be given some authority in resource management projects is also sometimes effective in allowing women a legitimate and welcome

opportunity to express their opinion in community meetings (Pers. comm. Shem 2003). However, others say that women always exert their influence “behind the scenes” whether they speak publicly or not (Pers. comm. Narfi 2003).

In discussion with the Community Development Officer (CDO), the following observations were made: the use of the daily calender in the community development workshop allows men and the Chief to see how much work the women do and also that they are competent at domestic management, and therefore should be on the water committee; if this approach does not work because of cultural constraints, the CDO points out that having a WS scheme is an introduced service for the community and so it requires a new approach to management; therefore including women in WS decision-making does not challenge tradition but creates a new tradition to support a new development (Pers. comm. Daniel 2003). A recurring comment is that if women are not involved in management of the community WS system, it will not be maintained – it is seen as a practical requirement for sustainability, not a right’s issue or equity issue (Pers. comm. Dorras 2003).

In terms of capacity building for the RWS team members, the male CDO was previously a plumber and has now become a convinced advocate for all community members, (including women, youth and the disabled) to be actively involved in water management. In addition the RWS hydrologist is a young woman in a male-dominated profession, who had added community development experience to her technical skills.

It is possible that because she is a woman in a technical role this provides encouragement for women in the village to participate. Having a man as a Community Development Officer and an advocate for equitable representation is likely to influence other men more than the message being promoted by a woman (Pers. comm. Kalmet, and Daniel 2003).

5.2 Rural water supply in Tonga

In a number of RWS schemes in Tonga there appears to been less emphasis on the need for a special water committee, and more on the method for collecting money, Responsibility for implementation is also focused more on community than on government, from the outset.

Since 1997, villages on Tongatapu, 'Eua and Va'vau, have been installing water meters at households and establishments. The money collected is used to pay the plumber to maintain the system, and cover material costs. Charges vary from village to village but a common charge is 3 pa'anga (approx. \$US1.50) as a minimum charge for 4000 litres per month. Each 4000 litres in

excess is charged at 4 pa'anga. Some villages charge up to 8 pa'anga a month. The water management committee is often part of the general village committee, which meets monthly. The chairman is the Town Officer and the secretary is usually from the Womens' Committee. The Treasurer for the WS funds is usually also the Treasurer for the general Village Committee.

There are nine rural villages on the main island of Tongatapu with water meters. The installation of the WS system, including meters, was initially funded with some assistance from the Japanese Government in seven of the villages and New Zealand contributed funding in the other two villages.

Villages have their own internal fundraising schemes for construction and are assisted in preparing proposals for additional funding by the Rural Development Officer from the Central Planning Department (CPD). The proposal has to be then endorsed by Cabinet. This provides access to small grants scheme for infrastructure, although donors are increasingly emphasising capacity building and income generation in their criteria (Pers. comm. Mafi 2003). Once the donors have accepted the proposal, the funds are transferred directly to the Village Water bank account and construction is the responsibility of the village committee.

As there is relatively easy access to banks in the nearby capital of Nuku'alofa, funds do not have to be kept in the village. Some villages have accumulated a surplus of 1000 pa'anga since 2001 from the monthly fees (Pers. comm. Leha 2003).

The various donors require different percentage contributions from the village for materials, and all require the village to provide the labour. e.g. Canada Fund 40% from the community, Australia 10%, New Zealand 10%. Japan sometimes fully funds materials. The village/water committee and CPD personnel must supervise implementation.

The Health Officer from the Ministry of Health tests the quality of water in each village and advises the village committees how to hygienically manage their water supply system.

After installation, the water/village committee pays the plumber to maintain the pump and the distribution system. "If people do not pay their water bill according to the meter reading, water committee cuts off their supply, and there is no water for that home until they clear their outstanding account, and they have to pay a reconnection fee. There are no excuses, what we are trying to do is to treat all homes the same, but it's up to each committee to decide whether to give a second chance to people if this case happens" (Pers. comm. Leha 2003).

5.2.1 Participatory research and ecological sanitation in Tonga

This case study briefly summarises a process of community education, understanding and initiative regarding groundwater pollution and water conservation in Tonga. Recent reviews of longer-term impacts indicate the need to follow up and reinforce environmental and public health messages over many years.

The activities involved the cooperation of a number of government departments in Tonga: the Tonga Water Board, the Ministry of Health, the Ministry of Lands Survey and Natural Resources, and the Central Planning Department. It also involved school staff and students, community members, town officers, village committees, and the support of several regional organisations and donor agencies.

The programme began with coordination of two projects, a research study into groundwater pollution, and a Composting Toilet (CT) trial. Subsequently, a distant community on another island group in Tonga heard about the pollution studies and the CT trial, observed the outcomes, and decided to raise funds and install the 'dry' sanitation system on their island, in order to conserve freshwater and protect their environment from pollution.

In a village in the Ha'apai group of islands, the groundwater had become polluted from septic tanks, pit latrines and domestic animals (Tapealava 1996; IHP 2001). It was considered important to research and develop an alternative toilet system that did not discharge into the lens, and did not use precious water for flushing.

A groundwater pollution study had commenced in 1996 in Pangai-Hihifo coordinated by the South Pacific Applied Geoscience Commission (SOPAC) and the United Nations Educational, Scientific and Cultural Organization (UNESCO) for the International Hydrological Programme (IHP). Linked to this pollution study, a trial of CTs was undertaken in Ha'apai from 1997 to 1999, as part of an AusAID-funded project to institutionally develop the Tonga Water Board (Falkland 1995; Crennan and Benke 1996; Crennan 1999). Community meetings and small gender segregated group discussions were held to introduce the village to both projects and the issues of water pollution and conservation.

One-to-one discussions

A 'customer survey' was then undertaken with 10 per cent of the town's population (approximately 3500 people at that time). Informal discussions lasting 2-3 hours were conducted, covering issues of water use, hygiene and sanitation practice, to better understand needs and attitudes. All households surveyed had a toilet, and many households had both a flush toilet and a pit latrine.

Most households had access to a rainwater tank, and were connected to reticulated water, and some also had a private well.

Volunteer participants make a financial commitment

The concept of a composting or organic toilet was introduced during the household discussion, and photographs were shown of CTs in Kiribati, Australia and Europe. Residents were invited to participate in the trial if it interested them. However, it would cost them 100 pa'anga (approx US\$50), in advance, to contribute toward building materials. This offer was taken up by a cross-section of thirteen households, which varied in economic and educational circumstances. Women, in most cases, undertook the monitoring of the domestic installations, however, all household members were included in the feedback sessions, which were conducted at each house over a three-year period.

Two schools also participated. The school staff volunteered because they had recently hosted a church conference, where hundreds of visitors came from around Tonga and overseas, for a week, and the staff had been horrified by the consumption of water and blockages in their flush toilets. They also had experienced ongoing water loss from cisterns leaking due to mineral deposits jamming the flushing mechanism. These continuous slow cistern leaks are common in Pacific Island Countries, where groundwater is used for flushing toilets. The result is much wasted water and extra loading on septic tanks, discharge areas and receiving waters.

Saving money is a powerful incentive

The school's deputy headmaster and science teacher specialised in organic farming. Although Tongan soil is fertile, he could still see a potential use for the compost from the toilets, and maintenance of the toilets by the children was linked to agricultural instruction (Pers. comm. Hausia 1997). In Tonga, the community pays for reticulated water. It was reported that nearly half the school's infrastructure budget was consumed in paying for water for the flush toilets. Herein lies a strong motivation to use a dry system that is to save money on water bills. Once the CT was in use, the school was delighted to report that their water bill dropped from 70 pa'anga a month to 20 pa'anga a month (approx. US\$35 to US\$10). The domestic trial participants who had flush toilets also reported savings in water bills since they had started using their CT (Crennan 1999) and some used the toilet compost on their fruit trees (Pers. comm. Marfi 2003).

Student and community participation in research

The educational process of the composting toilet trial was integrated with the UNESCO/SOPAC/IHP-funded groundwater pollution study. The study aims were to establish evidence of the rate and direction of groundwater flow, pollution levels in the village context, and source of pollution. The overarching question was whether or not there is a safe distance in a village

context for the siting of wells and sanitation facilities in relation to each other. The aim was to review the standard criteria that had been imported to the Pacific that 30 metres was a safe distance between a water supply source such as a well, and a source of pollution such as a toilet. That standard had been based on European soils and groundwater characteristics, and had not been adapted to local conditions since its introduction to the Pacific in the 1960s (Dillon 1997).

The significance in linking the two projects in terms of community participation was that the second stage of the groundwater pollution study was conducted in the school grounds, and the children constructed the site and assisted with monitoring of the experiment. Prior to this demonstration, the children and most of the teachers did not understand the movement of the groundwater, or that it was capable of carrying pollutants between various sites. They were also unaware that contaminants and nutrients from coastal septic tanks and pits could eventually leach onto the reef, killing the coral and contaminating their seafood.

These participatory experiments demonstrated that in a densely-populated village area, where neighbouring in-ground toilets are closely located, pollution may be widespread. Rather than closing private wells to avoid the use of polluted water, an alternative solution is to use a 'dry' above-ground toilet such as the CT instead of the pit latrines and flush toilets. This allows households to keep their independent access to well water, and increases motivation to protect the groundwater as a family and community asset.

Appropriate training

In addition to providing accessible evidence of groundwater pollution from sanitation facilities, the UNESCO/SOPAC/IHP groundwater pollution study indicated how to more fully utilise a research process to increase community awareness (IHP 2001). Certain difficulties arose in the first phase of the study in 1996, which provided lessons in the planning and management of a cross-cultural, multi-disciplinary project of this nature. Problems included inaccessible monitoring techniques, and this was addressed in the second phase by using equipment that counterparts could use in-country, and tracers which the community could observe. As one of the counterparts remarked 'the public need to visually see the results with their own eyes and really believe the outcome of the experiment rather than knowing it from reports and verbal discussion' (Fatai 1999).

Cross-sector support and cooperation

An amateur educational video in Tongan language was shot by the project team during the CT trial and groundwater study. The video was produced with the assistance of CT trial participants, the teachers and children at the Catholic school and various staff of the Tonga Water Board, the Ministry of Health and the Ministry of Lands, Survey and Natural Resources. The involvement of this cross-section of government departments and the community conveyed the message that

sanitation, hygiene and water conservation is a community issue that requires a partnership solution. The process of production of the video was as important as the outcome, especially for the community members and government personnel who helped write the script and act in production.

Family members from the CT trial households volunteered to act in the video, particularly in the scenes demonstrating use of water around the home, and the vulnerability of groundwater to pollution from domestic animals, in-ground rubbish pits, and poorly-maintained wells. AusAID personnel distributed 100 copies of the video to government department and schools in Tonga (pers. comm. Bleakley 1999). It was not possible to show the video on local television because of taboo issues related to sanitation.

Technology transfer on Ata'ata

As this research became known in Tonga through radio programmes and people talking, the Town Officer from Ata'ata, an island close to the main island of Tongatapu, visited Ha'apai to investigate on behalf of his community. The villagers funded the Town Officer's travel to Ha'apai so that he could bring back firsthand reports of the groundwater pollution demonstration, and local experience of the new sanitation system. The Town Officer talked to the women and men in the trial about their positive and negative impressions of the organic toilet.

While in Ha'apai, the Town Officer met the Rural Development Officer (RDO) from the Central Planning Department. The RDO had volunteered to assist in the monitoring of the organic toilet, as he saw its potential for the rest of Tonga (Leha 2002). A year later, the Town Officer asked the RDO for assistance to prepare a proposal for organic toilets for his island.

Ata'ata, which has brackish groundwater, is mainly dependent on rainwater, and also has a limited area for people to live and plant local crops. The CT seemed appropriate to the community because it did not consume precious water for flushing, and did not need regular relocation as is required with the pit latrine. There would also be no leaching of pollutants onto the reef as can occur from septic and pit latrines, and this would protect their main sources of income — fishing and ecotourism.

Funds from AusAID and Canada Fund were raised to cover materials and transport. From 1999 to 2001, community members constructed CTs at each house on the island, and at the school. Although technical drawings were available from the Ha'apai trial, no-one could read them, but the design was accurately duplicated from observation with some local modifications. JICA later assisted the community with an additional CT for a new school house. Tourists from a resort on the island visit the village and are invited to use the CTs, if they have the need. Although the

resort does not use CTs, the island and the village is generally promoted as an eco-tourist attraction, because of the CTs. At a function in mid 2003 to open the new schoolhouse, many government officials who attended from the main island became aware of the CT for the first time, and were interested in its use in other locations (Pers. comm. Leha 2003). Often information about developments is only passed on through first-hand observation.

Loss of continuity on Ha'apai

In 2003, five years after the CT trial on Ha'apai was completed, a visit to the participating households revealed that only three original participants still lived at the same address, due to migration, retirement, marriage, and death.

The organic toilets at these three households and at one of the schools were providing effective sanitation, and protecting the local water resources and the environment at no cost to the family, and producing a useful compost. The householders said they preferred the CT above all other types of toilet, including flush toilets and were surprised to hear that the other CTs were not being used properly. One of the householders had been experimenting with different types of bulking agent over the years and had found that leaves from a particular tree decomposed more quickly allowing the CT to produce a finer compost in a shorter period (Pers. comm. Marfi, Taufata 2003). This kind of local innovation is the next stage of technology transfer, which will allow the CT to be fully adapted to PIC needs and conditions.

At the other sites, the CTs were still functioning, but maintenance was inadequate. Carbon-based bulking agent, such as leaves was rarely being added to the system. Some householders advised that they were "too lazy to add the leaves". One woman who lived near the playing field complained that the local football team used her CT because they thought it was "just like the pit latrine", and so did not ask her permission first. For this reason she wanted a flush toilet so they would show more respect (Pers. comm. Fokitalo 2003).

Two new CTs had been built at a school and at a settlement for outer island children. However, information as to the reason for introducing CTs had not been transferred within some families, between households, and within development agencies. Some families who had a CT were now constructing flush toilets within a couple of meters of their well, and were not aware of the threat to family health that this presented. In these cases, the original trial participants, the mothers of the households, who had appreciated the importance of the CT, had died or moved overseas. The home had been taken over by relatives who had returned from work or study on the main island.

An NGO was promoting flush toilets, with donor assistance, apparently unaware of the costly demands on water supply and potential pollution to groundwater. Households requesting CTs were being discouraged. Fieldworkers from the NGO and others were reporting that the CT did not work, without checking the circumstances (Pers. comm. Wolffe 2003). This negative report was preventing donors, such as the EU, from accepting community requests for CTs (Pers. comm. Leha). It also offended the householders who had a well-maintained, effective CT (Pers. comm. Marfi, Taufata 2003).

The principal and deputy principal at the Catholic church school, which had been the site of the groundwater pollution study and their money saving CT, were succeeded by new personnel who decided to demolish the CT. This decision was made under pressure from a church group from the main island in preparation for a church conference, who thought the CT was too close to the priest's quarters. This was strongly opposed by staff that had been involved in the CT trial as it was because of the last church conference in 1996, that the school had requested a CT to replace the flush toilets. A large new government school, built with assistance from JICA, had attracted many of the best students, and the Catholic school is now struggling to survive (Pers. comm. Hausia 2003). The new school had several amenities blocks with flush toilets.

The children who had participated in the groundwater pollution study had left school and some now had children of their own. However it was considered that as the youngest adults of the extended family, their opinions would not be considered in decisions regarding the choice and location of WSS systems (Pers. comm. Fatai 2003).

Private sector education and involvement is required

Banks in Tonga require the inclusion of a flush toilet as a precondition for granting loans for the construction of a new house, and this was suggested as a reason for the promotion of flush toilets (Pers. comm. Fatai 2003). There were many new homes being constructed the village and it was the intention of most of the local owners to rent these houses to pa'alangi, or expatriates (Pers. comm. Leopoame 2003). However expatriates living in the village reported that they were concerned about pollution of the groundwater and the demand on water supply, and would much prefer to use an appropriate dry sanitation alternative (Pers. comm. Billy 2003).

On the main island of Tongatapu the senior Rural Development Officer who was involved in the Ha'apai and Ata'ata CT projects is planning to install a CT in his new home. He hopes that this will provide an example to the families who are building new homes and to the banks that are funding them.

Ongoing monitoring and support is required

Given shifting populations and inevitable change of circumstance, and the disinclination to share information, communities require follow up and regular reinforcement of messages over a sustained period, especially regarding sensitive sanitation and hygiene issues. Donors should also update on programme outcomes, and check with other agencies, to avoid duplication and conflicting projects.

5.3 Catchment management in Fiji

A community-based programme, in collaboration with the private sector and government departments, to reduce loadings of liquid and solid 'waste' on the marine and freshwater environment has been undertaken at Tikina Cuvu in Fiji since mid 2000. Tikina Cuvu was selected for the Wai Bulabula (Living Waters) Project, which focused on wastewater treatment using an artificial wetland, after consultation with local communities established that there was support for the project, and financial and logistical assistance was offered by the Fijian Shangri-La Resort. A second FSP-coordinated project, the Coral Gardens Initiative is also located at Tikina Cuvu. Although the two projects are separate, both programmes are working together to empower local communities to reverse the decline of coral reefs and nearshore waters, and to increase benefits to the community, such as food and income from fish sales and tourism. The programmes attempted to focus on all inputs and outputs "from the ridge to the reef".

From this extensive programme, FSP, now re-named Partners in Community Development Foundation (PCDF), have gained in capacity as fieldworkers and learnt many lessons which they are applying to their work in this programme and with other communities, which have subsequently requested similar programmes to be conducted on their islands. On-the-job training has been provided to fieldworkers from other countries and NGOs such as the Matuaileo Environment Trust Inc. (METI) from Samoa.

METI's approach to environmental management, which includes protection of freshwater resources, is based on the following two premises:

1. "One can only rally the support of the communities on whom one depends to safeguard their Environmental assets, if three important conditions are met:

- that people's health needs, educational aspirations and livelihood security needs are taken note of and action is taken aimed at satisfying them."

2. In addition, “it is only when a bond exists between the communities and the NGO in question that is based on TRUST, that a meaningful dialogue can take place and an effective collaborative action leading to the development of a spirit of self-reliance can succeed.”

Personnel from METI who have trained with FSP staff and community groups at the Waibulabula/Coral Gardens project in Fiji, plan to duplicate that programme in coastal villages in Samoa (Pers. comm. Vermeulen 2002).

Background Conditions

In Civu district, the coastal hydrology has changed due to the construction of the Yanuca causeway/bridge in the 1960s, with over 100 000 cubic meters of sand deposited in the channel, resulting in severe beach erosion of the main Cuvu Bay beaches at the Shangri-La Resort. Deforestation and hillside burning and farming also contributed to erosion and the flooding of Cuvu Bay and reefs with muddy freshwater. Many of the cane farms are directly abutting streams with no buffer of trees (required by law). There has been a decline in coastal coconut forests due to demand for old trees by a coconut furniture factory, and to stray cattle killing coconut seedlings, which has resulted in further beach erosion in many villages, in part related to poorly-constructed seawalls and partly to the removal of coastal trees (Bowden-Kirby 2002)

Draining of freshwater wetlands and filling in of mangrove forests at the mouth of Voua and Cuvu streams allows rainwater and nutrients to run directly onto the reefs. Further degradation of the natural filter has been caused by *Rhizophora* mangroves being stripped to make traditional paint for tapa cloth, and mangroves cut down for firewood. Nutrient run-off from piggery ‘wastes’, sewage, and agriculture is feeding *Sargassum* and other seaweeds on the reef which are smothering the coral, and contributing to an infestation of coral-killing Crown of Thorns starfish. The infestation is linked to ecological imbalances caused by overfishing, especially of herbivorous fish and urchins, and nitrification of inshore waters.

The primary method of rubbish disposal in the eight villages of the district was directly into the sea. There was an unofficial rubbish dump on Cuvu Bay from Newtown’s shops and homes, with the main Sigatoka town dump upwind of Yadua Village and likely to be causing health problems due to dioxin released from daily burning (Bowden-Kirby 2002).

There had been severe overfishing due to population increases, and “desperation fishing” due to widespread lay-offs subsequent to the May 2000 coup. Habitat decline had occurred as a result of destructive fishing methods and the use of plant (*duva*) poison on both the reefs and in the streams.

A number of recent climatic events had contributed to further reef degradation. Coral bleaching had occurred due to unusually high temperatures over the past two summers, and record "tidal" waves (in March and July 2001) had destroyed most of the remaining branching corals on the reefs, also wiping out the initial coral transplanting and restoration experiments.

Community-based management

The Tikina Council set up the Cuvu District Environment Committee and a working party through which the Wai Bulabula and Coral Gardens Initiative projects were coordinated. The coordinating committee is comprised of landowners, government departments, NGOs and FSP-Fiji, and regular meetings have been held for the past three years.

Two-day environmental awareness workshops using Participatory Learning and Action (PLA) techniques were conducted in the eight coastal villages of Cuvu which allowed people to air their environmental concerns and stimulated interest and wider participation of the community. The programme is structured to function through "80% community contribution and 20% input from a team of facilitators or guides" (Robinson 2001). The workshops were followed by four three-day management planning workshops. State-of-the-environment books were produced for the District and for each village.

An Environmental Management Plan was adopted by the Tikina Environment Committee and approved on July 4th 2001, by the High Chief and Tikina Council.

Following the community consultation process, the Cuvu Bay unofficial rubbish dump was closed and cleaned up by the community and made into a picnic area. Disposal of rubbish into the sea ceased in all eight villages in the Tikina (district). Rubbish is now taken to the dump at Sigatoka or it is burnt or buried in house compounds. Composting and vermiculture trials have been part of the Wai Bulabula Project and there are plans to apply the results of the trials to the village 'waste' management. 'Waste' minimisation, composting, and watershed management workshops and activities were conducted to further reduce freshwater and coastal pollution, unwise burning, and erosion.

Four no-fishing *tabu* marine protected areas (MPAs) have been established for an initial three-year period, and other activities aimed at restoring the environment have been undertaken with community members and in cooperation with the Shangri-La Resort.

Time and skills

A programme of this magnitude and complexity requires a long lead time. The 'comprehension period' can take at least 1-2 years before communities fully commit themselves and understand and digest concepts. Donor agencies need to be informed how traditional systems work to enable them to adjust their funding mechanisms to provide some support over a longer period. Often funding periods end when communities have just begun to actively participate, which can defeat the efforts toward sustainability.

It is important to clarify with external consultants the cost and time that will be involved in technical assistance so that the local counterparts can ensure the budget also allows for necessary community activities. Where possible technical assistance should be sourced locally to reduce costs, and technical skills and activities should be transferred to community members as soon as feasible (Pers. comm. Lucas 2002).

Although the skills of the fieldworkers have been strengthened through conducting the programme, there has not been sufficient technical capacity to deal with all the complexities of the experiment. For example the use of water hyacinth in the wetland at the Resort meant that harvesting was to be undertaken very frequently due to its rapid growth in the nutrient-rich medium. It is also not advisable to recommend this plant if the wetland was to be used in a village to treat sewage effluent, as it is already a problematic weed. In this regard the wetland at the Resort does not serve an effective trial for village conditions, which was one of its goals (Pers. comm. Mosley 2003).

There was a lack of baseline data from which to evaluate the impact of the programmes, for example, the quality of the fresh and marine water in the vicinity of the resort. It is now understood that this kind of information needs to be gathered to substantiate and support anecdotal observations and to promote the activities, achievements and message of the programme.

Inclusion and conflict resolution

Women are the main fishers of the reef, in addition to their many other responsibilities, and it was critical that they were involved in the programme from the outset. However as initial meetings were held at the Chief's house, they did not attend, out of respect. Separate meetings were then conducted with the women at a time and venue of their choosing.

During ongoing workshops and programmes with the community, the PCDF fieldworkers made an effort to avoid activities which would oblige the women to have to spend time preparing food for the workers. When a common meal did take place after training or rehabilitation with the community, the fieldworkers, both men and women, assisted with village women with the purchase and preparation of food.

Ongoing commitment from the community requires incentives and direct involvement. During the project this was achieved by:

- village 'clean-up' competitions;
- participation in practical marine and catchment restoration initiatives;
- training workshops to develop environmental and management skills and knowledge;
- developing a village theatre troupe to perform in schools and workshops on environmental themes;
- participation in field trials and other project research;
- ensuring youth have an opportunity for input to decision-making through PLA and theatre activities; and
- incorporating traditional practices such as:
 - working in harmony with local protocols, (for example, the establishment of an environmental committee through the district council with endorsement from chief and leaders);
 - building on the concept of *Vanua* i.e. identity of indigenous communities; and
 - planting local species around or near toilets, septic tanks and drains which feed on nutrients from 'waste' thereby helping to reduce eutrophication.

Attention should be given to addressing conflicts, which are commonly experienced when resources are communally owned. This includes anticipating potential conflicts such as disputes over water connection and drainage, and dealing with existing conflicts such as disputed ownership of land and fishing boundaries. Conflicts may also arise because of the processes and projects of the project itself, and differing views as to how activities should be conducted. This may result in fieldworkers being blamed if conflicts or difficulties occur during the project (Pers. comm. Robinson 2003).

Partnership

It is crucial to establish a working relationship with the communities built on trust and confidence, and to avoid creating unrealistic expectations about outcomes from the project. Creating a community/private sector/local government partnership can be mutually beneficial, and it is

important to have the widest possible collaboration of stakeholders (Robinson 2001; Bowden-Kirby 2002).

Ownership of the project by the community is one of the goals of the facilitating agency, in this case PCDF. If the village takes this seriously they may object to information about the progress of the project, or results from research being passed on without their permission. In one situation, when a sample of coral was innocently taken from the reef rehabilitation area for exhibition in an aquarium by one of the fieldworkers, the village members were offended that their authority over all aspects of the programme had not been sufficiently respected. It was then required that another fieldworker had to make amends on behalf of PCDF and offer gifts in keeping with protocol to re-establish good relations (Pers. comm. Sivoi 2003).

More effort has to be made to involve other communities living on the watershed, such as the Indian cane farmers (Pers. comm. Robinson 2003). This involves designing activities and training targeted at their specific needs, and means of livelihood, in the same way that the fish *tabus*, and coral planting were aimed at supporting the long-term livelihood of the coastal villagers. The cane farmers, whose farming and clearing methods cause turbidity and sedimentation in surface waters may be unaware of other possible techniques, or may be unmotivated to change because they are on rented land. They require information/ assistance with alternative practices.

While the Wai Bulabula/Coral Gardens project has improved relations between the villages and the Resort, there are still inequities, which affect the daily life of the community, especially the women. For example, because of the demand the Resort places on the local water supply, water to villages only flows a couple of hours a day. Consequently taps are often left on so the householders know when the water is coming, which results in wastage if people are not at home. Many of the village members are employed at the Resort, so there is a dependency that can only allow for a certain level of complaint. The Resort, on the other hand pays substantial annual rent for the use of the land so expects certain rights and privileges in return.

5.4 Rainwater harvesting in Tonga

There are a number of NGOs, which are currently engaged in installation of rainwater tanks in Tonga. One programme at the construction stage at the time of writing, encourages a high level of community initiative for implementation. It is assumed that this will increase the likelihood of responsibility and maintenance in the long term, however this remains to be seen.

5.4.1 Community initiative

Langafonua a Fafine is the National Women's Council in Tonga, an NGO with wide membership of women's groups throughout Tonga. Fieldworkers are currently supporting the construction of fifty-two tanks in five villages on Tongatapu.

The application for a tank is made by the female head of the household but in some cases, men join the group to support their wives or as the applicant, for example as widowers. In some villages there may be as many as fifteen households applying for a tank, and in others there is only one applicant. In some cases, they are motivated to apply because the reticulated village water supply is unreliable, or of poor quality, and in other cases people wish to have a rainwater tank for drinking, as they "don't like the taste of the chlorine", and for washing so they "don't need to use so much Omo".

As part of the network, women form groups and register with Langafonua (5 pa'anga a year for 10 people) and indicate what aspect of domestic management or income generation they need assistance with. Other NGOs are engaged in similar activities. The fieldworker at Langafonua then assists the women to raise funding for their particular need. The fieldworker is a volunteer on a minimal income, as are many of the other women who work at Langafonua.

Each tank will cost 1300 pa'anga (approx \$US750). The household is required to contribute 520 pa'anga, and Canada Fund will contribute 780 pa'anga, which will cover the tank and downpipe. In order to further assist the householders the Langafonua fieldworker has sourced 120 pa'anga per tank from another donor, leaving the householders to pay 400 pa'anga of the required 520. The householders will also be responsible for preparing and protecting the site, and for installing fascia and gutters, and for providing food for the labourers. Field workers from TANGO, another umbrella NGO, will supervise the labourers and conduct a survey of the households with the Langafonua fieldworker, and this will be supported by NZAID. For many months the householders have been engaged in raising their 400 pa'anga contribution, assisted by Langafonua fieldworkers.

Community fundraising

Various methods have been used for fundraising. The householders catered for a three-day government workshop for the Finance Department, and a two week train-the-trainers course conducted by SPREP as part of the IWP (See Section 4.4). Morning tea, lunch and afternoon tea were provided and the profits were divided among the householders.

Some households have taken out loans from a village revolving fund. Within their village group, women have contributed a monthly payment throughout the year, which makes them eligible to borrow capital at 5% or 10% interest. The interest from the fund is divided among all contributors at the end of the year, according to their contributions. For 40 pa'anga a householder could raise their 400 pa'anga contribution in time to be part of the rainwater harvesting programme, and then pay it off over the next 12 months.

Some households were able to raise 400 pa'anga without too much difficulty. Other more impoverished families were assisted to reach their goal by the collective fundraising of their group. The fund is deposited with Langafonua and installation does not begin until all the money is raised to pay for the fifty-two tanks. This creates a communal responsibility for the programme and individual responsibility/ownership of the tanks. Personnel from the Tonga Water Board agreed to visit each village group and explain maintenance, monitoring and hygiene requirements with regard to the sustainable management of their WS system.

Leasing and cultivating land

Related to these activities is an initiative to demonstrate a novel fundraising or income generating activity for women. In April 2002, a group of Langafonua members leased eight and a half acres (the standard bush allotment or 'apie') for seven years from a man who failed to produce a squash crop and owes money to the bank. Women are allowed to lease land in Tonga but not to own it, so this allows them to overcome this obstacle. There are nineteen women in the group and one man. Together they raised 2000 pa'anga as a deposit through catering activities, and over seven years they will pay the landowner 5000 pa'anga to use the land.

The group have planted yam, and mulberry for tapa, to pay the lease, and vegetables for their family needs and to sell for extra cash. Each group member has a patch for their family garden as well as the collective crops. At the time of interview in September 2003, $\frac{3}{4}$ of the land was cultivated, and the group visited the land at least once a week to weed, plant and harvest. Some of the group are older women, retired civil servants, and it is unusual to see women working in the bush in this way. They are sometimes assisted in the heavier work, such as tilling by men and boys from their families, but it is their enterprise and they make all the decisions.

The group is keeping accounts of all expenditure and income so that they can use this experience as a model for other women to undertake a similar income-generating scheme. There is unused land owned by Tongans who live overseas, which could be cultivated in this way. Money raised from such ventures can enable women to pay for WSS for their families.

6. CONCLUSIONS

1. A substantial body of literature, guidelines, manuals and checklists that describe and suggest methodologies to engage communities in management of their resources in general, and water supply and sanitation in particular, is available from international funding agencies.

Much of this material has been developed from experience in Africa, Asia and South America. However there appears to be little material, produced by funding agencies, which addresses typical WSS scenarios in the small-island context of the Pacific.

2. Some government organisations, regional organisations and NGOs in the Pacific region have developed material for resource management, which is more focused on the social and environmental conditions, which exist in small island states.

In most of the material reviewed, gender equity and poverty alleviation issues have been included to a greater or lesser degree. Some publications give specific directions to ensure gender and poverty issues are addressed. Other materials refer to these concerns by advocating general practices of inclusion and sustainable income generation. The locally-developed guidelines emphasise self-reliance and a need to develop a Pacific perspective on the benefits and challenges of development.

Additional guidelines, which specifically address 'gender equity 'and' poverty alleviation in WSS in PICs, could be useful. However to be effective they will need to be sensitive to local understanding of these concepts, and build on traditional values and ethics.

3. In the material, which has been reviewed, the link between technical and social considerations appears not to be specifically described for implementation of WSS in PIC conditions. Social or technical issues in WSS have been covered in various publications and manuals, but the links between the two are not clearly identified. It is therefore concluded that the articulation of these connections and their practical implications could be the focus for 'guidelines' from this project.

Feedback from fieldworkers indicates that there is a need to provide something familiar which they can relate to, which identifies technical and social obstacles or opportunities which they are likely to encounter when designing or implementing programmes aimed at sustainable water management for all members of PIC communities. However to develop guidelines which are locally relevant will be challenging as social and physical conditions vary significantly across the region and within countries, and communication is primarily oral.

4. In Section 3 of this report, particular Questions, which could highlight the links between social and technical considerations have been explored. These Questions seek to identify the relevant stakeholders and their relationship to their resources by asking “Who?”... . The Questions refer to a broad range of technical and socio-cultural factors, which require attention in order to achieve equitable and sustainable catchment management on both a human and environmental level. The Questions that have been formulated, are intended as a strategic rather than a prescriptive approach. They aim at drawing on the abilities, which exist within communities, to help people identify their own priorities, and develop comprehensive well-informed solutions, which can be sustained in the long term.
5. Case studies have been briefly explored which describe various approaches to implementing water and sanitation programmes, and illustrate the need to understand community dynamics in order to facilitate sustainable management. The case studies indicate that effective technology transfer occurs where people have had direct and practical experience of the benefits of a particular water supply or sanitation system, and fully understand the negative impact on their lives of inadequate water management. Community members also need to have the capacity to change their poor practice and maintain any technology they are using. The more active people are in providing themselves with water supply and sanitation systems, the more likely they are to maintain these systems into the long term. Involvement should be facilitated at all stages of management including design, construction, repair and funding, and should include men, women and youth
6. The guiding questions, discussed in Section 3 of this report, require translation into an accessible format for the use of fieldworkers in a diverse range of circumstances. Potential media includes flipcharts, illustrated booklets, and video. Decisions as to format and presentation can be made with the assistance of media and education specialists in PICs and according to available budget. Literacy and numeracy capabilities of fieldworkers will need to be taken into account.
7. Due to lack of communication within and between funding agencies, NGOs and government organisations, water and sanitation programmes can sometimes be conducted which duplicate or contradict past activities. Conflicting initiatives, messages and policies can have serious negative impacts on natural assets and public health. The composition of communities changes over time so there needs to be some mechanism for passing on the message.

7. RECOMMENDATIONS

1. A checklist, guideline or field manual could be developed for the use of fieldworkers engaged in the implementation of rural water supply and sanitation in PICs. This guideline would aim to ensure that water resources are managed equitably and efficiently now and in the future.
2. The guideline should provide, in a simple accessible format, a checklist, which covers such issues as:
 - where the water is coming from;
 - who has the authority to inspire effective water management;
 - who is using the resource;
 - how is the resource being used;
 - who is responsible for labour to manage the resource;
 - who controls the resource;
 - how are decisions made about the resource;
 - who understands the needs for water, sanitation and hygiene;
 - whether or not the needs of all members of the community are being fairly addressed;
 - what kind of water supply and sanitation technology is suitable for the local environment and the community's socio-economic condition;
 - who needs training to maintain the resource and the technology; and
 - how can the lessons of the past be transferred to present and future community members?

It is suggested that the guideline or handbook could be entitled 'Tapping Connections'.

3. The guideline is not intended to replace current effective methodologies which are used by PIC fieldworkers to engage communities. It should be designed as an additional tool to enhance their practice and experience. The guideline can help to ensure that men, women, and children in the communities have the necessary skills and understanding to manage their water wisely. Fieldworkers will be asked to provide feedback on the guideline, and suggestions on ways that it can be improved.
4. Practical training, which illustrates the links between the technical and socio-cultural aspects of WSS in PICs, should be made available to fieldworkers from government organisations and NGOs, and to community members. Training should include clear visible demonstration of cause and effect, through applied research, working models and pilot projects. This would allow participants and the wider community to see, discuss, and understand the impact of

WSS systems on water resources, and the potential risks and benefits for the health and livelihood and wellbeing of all community members. Training should be offered to men, women and youth and could include the following activities:

- participation in a groundwater pollution study;
- participation in a composting toilet trial;
- participation in programmes to recycle rubbish and compost household waste for use or sale;
- a construction and maintenance course for septic tanks, improved pit latrines, organic toilets, artificial wetlands, wells, solar pumps, gravity-fed water systems and rainwater tanks;
- demonstration of organic gardening techniques to save water, avoid use of artificial fertilisers and pesticides and to provide access to niche markets;
- demonstration of hygienic and productive management of pigs and other domestic animals; and
- fundraising activities such as revolving loans, catering for social and church events and workshops, and production of craft, to support communal water supply systems.

5. Funding agencies, NGOs and government organisations should keep records of water and sanitation programmes conducted in communities, and make this information easily accessible to each other. Prior to the commencement of any initiative, records of all relevant institutions should be checked. Inquiries should also be made to ascertain whether there are any other resource management activities being conducted in the area. It may be possible to establish links to achieve an integrated approach. Duplication and conflicting messages should be avoided.

BIBLIOGRAPHY

- Asian Development Bank (ADB), 2000, 'Gender Checklist: Water Supply and Sanitation', Asian Development Bank, Manila, Philippines.
- Asian Development Bank (ADB), 2001, 'Water for All: The Water Policy of the Asian Development Bank', Asian Development Bank, Manila, Philippines.
- Australian Agency for International Development (AusAID), 2000, 'Gender Guidelines: Water Supply and Sanitation: Supplement to the Guide to Gender and Development', Australian Agency for International Development, Canberra, Australia.
- Australian Agency for International Development (AusAID), 2000, 'Guide to Gender and Development', Australian Agency for International Development, Canberra, Australia.
- [Australian National University, Research School of Social Sciences] Development Studies Network, 2003, 'Water Governance and the Political Economy, Development Bulletin no. 63, Editor, Pamela Thomas. Research School of Social Sciences, Australian National University, Canberra, Australia.
- Bain-Emberson, Dr A., 1995, 'Women in Development Country Briefing Paper for Kiribati', Asian Development Bank's Office of Pacific Operations and Social Development Division, Manila, Philippines.
- Berhane, D., 1994, 'Water and Sanitation Committee: Position and Issues Paper Country Background', Papua New Guinea Water board, Papua New Guinea.
- Berry, G., 2000, Agricultural Sanitation: 'From Waste to Resource', PhD Thesis, University of Tasmania, Hobart, Australia.
- Bolt, E. and Fonseca, C., 2001, 'Keep It Working: A field manual to support community management of rural water supplies', International Water and Sanitation Centre (IRC), Delft, The Netherlands.
- Bowden-Kirby, A., 2002, The Coral Gardens Initiative, Fiji: Demonstration Phase, Project report to NZDOA Pacific Initiative for the Environment Reporting Period June 2001-December 2001, FSP-Fiji.
- Brikke, F., 2000, 'Operation and Maintenance of Rural Water Supply and Sanitation Systems: A Training Package for Managers and Planners, Operation and Maintenance Network of the Water Supply and Sanitation Collaborative Council', International Water and Sanitation Centre (IRC), Delft, Netherlands.
- Commission of the European Communities (EU), 2002, 'Communication from the Commission to the Council and European Parliament: Water Management in Developing Countries Policy and Priorities for EU Development Cooperation', Brussels, Belgium.
- Canadian International Development Agency (CIDA), 1995, 'Developing Baseline Gender Indicators and Analysis for Country Programme Planning: A Resource Guide', Asia Branch, CIDA, Quebec, Canada.
- Crennan, L., 1992, 'Waste in Troubled Waters: a case for alternative sewage treatment' Environmental Studies Working Paper no 22. Centre for Environmental Studies. University of Tasmania, Hobart, Australia.
- Crennan, L., 1995, 'Wet And Dry Conservancy: politics and practicalities of on-site sanitation', Thesis for Doctor of Philosophy, University of Tasmania, Hobart, Australia.
- Crennan, L., 1999, 'Composting Toilet Trial Final Report', Tonga Water Board and AusAID, Tonga Water Board Institutional Development Project, AusAID, Canberra, ACT, Australia.
- Crennan, L., 2000, Integration of Technical and Social Science in Groundwater Monitoring and Management – Groundwater pollution Study on Lifuka, Tonga, Re-charge study on Bonriki, South Tarawa, UNESCO-IHP report for IHP Humid Tropics Programme.
- Crennan, L. and Benke, B., 1996, 'Wastewater Disposal and Sanitation Options for Tonga', Tonga Water Board and AusAID, Tonga Water Board Institutional Development Project, AusAID, Canberra, ACT, Australia.
- Cretney, M. and Kalmos, P., 2003, 'Programme Design for Community Based Rural Water Supply Committee and Financial Management Training, DGMWR, Vanuatu.
- Danish Agency for Development Assistance (DANIDA), 2000, 'Guiding Questions on Gender and Water Supply and Sanitation', Copenhagen, Denmark.
- Darwin Initiative for the Survival of Species, 2002, 'Coral Reef Conservation/Waibulabula Project – Fiji', Just World Partners (formerly UKFSP) and the Foundation for the Peoples of the South Pacific (now known as Partners in Community Development Fiji), Suva, Fiji.

- [UK] Department for International Development (DFID), 1995, 'Stakeholder Participation and Analysis', Social Development Division, DFID, London, United Kingdom.
- [UK] Department for International Development (DFID), 1997, 'Participatory Monitoring and Evaluation Guidelines: Experiences in the Field: St Vincent and the Grenadines', DFID, Social Development Division, DFID, London, United Kingdom.
- [UK] Department for International Development (DFID), 2001, 'Addressing the Water Crisis: Healthier and More Productive Lives for Poor People: Strategies for Achieving the International Development Targets', Department for International Development, London, United Kingdom.
- [UK] Department for International Development (DFID), 2002, 'Gender Manual: A Practical Guide for Development Policy Makers and Practitioners, Department of International Development, London, United Kingdom.
- Dillon, P., 1997, 'Groundwater pollution by sanitation on tropical islands', UNESCO, International Hydrological Programme, IHP-V, Technical Documents in Hydrology No. 6.
- Ecowoman, 2000, 'Participatory Learning and Action: A Trainers Guide for the Pacific', Ecowoman/SPACHEE, Suva, Fiji.
- European Commission, 1998, 'Guidelines for Water Resources Development Cooperation: Towards Sustainable Water Resources Management: A Strategic Approach', Office for Official Publications of the European Communities, Brussels, Luxembourg.
- European Union, 2002, 'European Union – Microprojects Samoa: 8th EDF National Indicative Programme (NIP) Project Number 8 WSO 4 Phase II: Six Month Report, April 2002 – September 2002', European Commission Delegation for the Pacific, Suva, Fiji.
- European Union, 2003, 'Microprojects Programme – Phase 111: 8-ACP-WSO-10¹: Work Programme and Cost Estimate Project (30 April 2003 – 29 April 2004): Finance: 8th EDF (European Development Fund) Cotonou Agreement', European Commission Delegation for the Pacific, Suva, Fiji.
- Espejo, N., 1993, 'Action Learning: Building on Experience', International Water and Sanitation Centre (IRC), Delft, The Netherlands.
- Evans, E. and Appleton, B., 1993, 'Community Management Today', Community Management Today: The Role of Communities in the Management of Improved Water Supply Systems', International Water and Sanitation Centre (IRC), Delft, The Netherlands.
- Gender and Water Alliance (GWA), 2003 'The Gender Approach to Water Management, Lessons from around the globe. Findings of an electronic conference series convened by GWA' Published by WEDC, Loughborough University, Leicestershire, UK
- Fatai, T., 1999, 'Rate and direction of groundwater flow: UNESCO-SOPAC groundwater pollution study', in *Proceedings of Second International Colloquium, Hydrology and Water Management in the Humid Tropics*, March 22–26, Panama City.
- Falkland, A.C., 1995, Technical Component Progress Report, Tonga Water Board and AusAID, Tonga Water Board Institutional Development Project, AusAID, ACT, Canberra.
- Fiji Council of Social Services (FCOSS), 2002, 'Fiji Council of Social Services: Annual Report 2002', Fiji Council of Social Services, Suva, Fiji.
- Fiji Council of Social Services (FCOSS), 2003, 'Fiji Council of Social Services: Strategic Plan 2003-2007: Celebrating Diversity and Enhancing Social Capital', Fiji Council of Social Services, Suva, Fiji.
- Fiji Council of Social Services (FCOSS), 2003, 'Volunteering Fiji: Pathways to Peoples Participation', Fiji Council of Social Services, Suva, Fiji.
- [Fiji] Ministry of Health, 1967, 'Laws of Fiji: Chapter 111- Public Health', Ministry of Health, Suva, Fiji.
- [Fiji] Ministry of Health, 2002, 'Shaping Fiji's Healthy Islands: Strategies for Transforming National Policy into Local Practice', Ministry of Health, Suva, Fiji.
- [Fiji] Ministry of Women and Culture, 1998, 'The Women's Plan of Action 1999-2008: Volume 1', Ministry for Women and Culture, Suva, Fiji.
- Fiji School of Medicine, 2003, 'PH243 – Project and Participatory Management, Course Book', School of Public Health and Primary Care, Fiji School of Medicine, Tamavua, Fiji.

- Fiji School of Medicine, 2003, 'PH243 – Project and Participatory Management Introduction and Assignment Booklet', School of Public Health and Primary Care, Fiji School of Medicine, Tamavua, Fiji.
- Flemming, S., 1987, 'Basic water supply and sanitation'. Nuku'alofa, Tonga, Womens Development Training Programme, Institute of Rural Development, University of South Pacific.
- Fonseca, C. and Bolt, E., 2002, 'How to Support Community Management of Water Supplies: Guidelines for Managers', International Water and Sanitation Centre (IRC), Delft, The Netherlands.
- Goodwillie, D. and Tabunakawai, K., 2000, 'People and Plants Toolkit : Managing Local Knowledge for Plant Conservation and Ecology', World Wide Fund (WWF), Suva, Fiji.
- Govan, H., 1999, 'Process Timetable and Workshop Contents: Community-based Management of Coral Reefs', Foundation for the Peoples of the South Pacific-Fiji (now known as Partners in Community Development Fiji), Suva, Fiji.
- Hannan-Andersson, C., 1995, 'A Gender Perspective on Water Resources Management', Swedish International Development Cooperation Agency (SIDA), Stockholm, Sweden.
- International Environmental Technology Centre (IETC), 1998, 'Sourcebook of Alternative Technologies for Freshwater Augmentation in Small Island Developing States', IETC Technical Publication Series Issue 8, United Nations Environment Programme (UNEP), Osaka, Japan.
- International Federation of Red Cross and Red Crescent Societies (IFRC), 2000, 'The Sphere Project: Humanitarian Charter and Minimum Standard in Disaster Response', Oxfam Publishing, Oxford, United Kingdom.
- International Federation of Red Cross and Red Crescent Societies (IFRC), 2002, 'Water and Sanitation Mission Assistant', International Federation of Red Cross and Red Crescent Societies, Geneva, Switzerland. (CD Rom)
- Jordon, J. and Capul, R., 1986, 'The Rural Water Supply and Sanitation Programme in the Solomon Islands', Water and Sanitation for Health Project (WASH), WASH Field Report No. 139, Washington DC, United States of America.
- Jordon, J. and Capul, R., 1988, 'Development of a National Policy for the Maintenance of Rural Water Supply Systems in Solomon Islands', Water and Sanitation for Health Project (WASH), WASH Field Report No. 234, Washington DC, United States of America.
- Khosla, P., 2003(a), 'Water, Equity and Money: The need for gender-responsive budgeting in water and sanitation', for the Netherlands Council of Women (NVR), the Netherlands.
- Khosla, P., 2003(b) "Tapping into sustainability: Issues and trends in gender mainstreaming in water and sanitation" Gender and Water Alliance, IRC, Ministry of Foreign Affairs, the Netherlands
- Lal, P. and Keen, M., 2001, 'Economic Considerations in Community Based Project Planning and Implementation', National Centre for Development Studies (NCDS), Australian National University, Canberra, Australia.
- La Roche, J., 1998, 'Water for Survival and Gender in Development Workshop Saturday 2 October 1998' report, Water for Survival, Auckland, New Zealand.
- La Roche, J., 2002, 'Water for Survival workshop on monitoring and evaluation, 3 June 2002' report, Water for Survival, Auckland, New Zealand.
- Leha, L., 2002, 'Community involvement in groundwater protection', in *Proceedings of Pacific Regional Consultation on Water Small Island Countries*, Sigatoka, Fiji Islands, 29 July – 3 August 2002,
- Live and Learn Environmental Education, 2000, 'Green Schools Guide', Live and Learn Environmental Education, Suva, Fiji.
- Melchior, S., 1989, 'Women, Water and Sanitation or Counting Tomatoes as well as Pumps', Promotion of the Role of Women in Water and Environmental Sanitation Services (PROWWESS), United Nations Development Programme (UNDP), New York, United States of America.
- Moser, C., 1989, *Gender Planning and Development: Theory Practice and Training*, Routledge London and New York
- Mukherjee, N. and Wijk-Sijbesma, V.C., 2003, 'Sustainability Planning and Monitoring in Community Water Supply and Sanitation, International Water and Sanitation Centre (IRC), Delft, The Netherlands.

- Narayan, D., 1993, 'Participatory Evaluation: Tools for Managing Change in Water and Sanitation', World Bank, World Bank Technical Paper No. 207, Washington, DC, United States of America.
- Nielsen, C. and Prasad, S., 2000, 'Teachers' Manual: Education for Sustainability: Linking Knowledge to Change', Live and Learn Environmental Education, Suva, Fiji.
- Pacific Foundation for the Advancement of Women (PACFAW), 2003, 'Resource Manual for Gender Advocacy Training, Pacific Foundation for the Advancement of Women, Suva, Fiji.
- Pacific Islands Association of NGOs (PIANGO) 2001, 'Strengthening NGO Effectiveness : Strategic Plan 2001-2005', Pacific Islands Association of NGOs, Suva, Fiji.
- [Papua New Guinea] Department of Health, 1998, 'Village Leaders Handbook, Improving Life in your Community' Environmental Health Section, Boroko, Papua New Guinea.
- Pesto, S., 2003, 'Second Edition Guide of Community Organisers Manual: Using Participatory Rural Appraisal Tools', Community Development Initiatives Foundation (CDI), Papua New Guinea.
- Public Works Department [Fiji] (PWD), 1990, 'Rural Water Supply', Public Works Department, Ministry of Works and Energy, Suva, Fiji.
- Robinson, F., 2001, Promoting a Healthy Environment: A case study of the Wai Bulabula and Coral Gardens Initiative, FSP-Fiji
- Rural Water Supply Section [Vanuatu], 2001, 'Ruroi Wota Suplae Seksen Komuniti Divelomen mo Wota Suplae Planning Woksop, DGMWR, Port Vila, Vanuatu.
- Sally-Raschid, L., Snel, M. and Bastemeijer, T., 2001, 'Serving the Water and Sanitation Sector: Resource Centre Experiences, Developments and Future Trends', International Water and Sanitation Centre (IRC), Delft, The Netherlands.
- Saito, S., 1997, 'Knowledge, Attitudes and Practices on Selected Environmental Issues for the Kiribati Environmental Education Programme, FSP, Tarawa, Kiribati
- Saitala, T. and Paelate, A., 1996. Country Report for Tuvalu, paper presented at *Workshop on Appropriate and Affordable Sanitation in Small Islands*, Tarawa, Kiribati, August 1996
- Sammy, E. and McEwan, R., 2003, Catchment and Communities Project, Activities Report, Department of Geology Mines and Water Resources, Port Vila, Vanuatu
- SANDEC/WSSCC, 2000, Environmental Sanitation in the 21st Century; Summary Report from Bellagio Expert Consultation, 1-4 February; SANDEC, Duebendorf, Switzerland
- Schertenleib, R. & Heinss, U., 2000. Keeping Wastewater in Sight and Mind: a new approach to Environmental Sanitation in City Development Strategy Journal, No 2, pp 48-50
- Schuringa-Wegelin, M., 1991, 'On-Site Sanitation: Building on Local Practice', Occasional Paper Series 16, International Water and Sanitation Centre (IRC), The Hague, The Netherlands.
- Simasiku, A., 1992, 'A Manual on Community Participation', Training Series No. 9, International Water and Sanitation Centre (IRC), The Hague, The Netherlands.
- Small Islands Voice (SIV), UNESCO, www.sivglobal.org
 George, October 2003
 Malevoi, November 2003
 Mareniaru, October 2003
 Tabokai, November 2003
 Tebano, October 2003
 Titili, November 2003
- Smet, J. and Wijk-Sijbesma, C. (eds.), 2002, 'Small Community Water Supplies: Technology, People and Partnership', International Water and Sanitation Centre (IRC), Technical Paper Series 40, Delft, The Netherlands.
- South Pacific Action Committee for Human Ecology & Environment (SPACHEE), 2000, 'Community Environment Workshop Handbook for Women', South Pacific Action Committee for Human Ecology & Environment and ECOWOMAN, Suva, Fiji.
- South Pacific Applied Geoscience Commission (SOPAC), 2003, 'SOPAC Gender Policy' (Draft), South Pacific Applied Geoscience Commission, Suva, Fiji.

- South Pacific Forum Secretariat (PIFS), 1998, 'Commitments of Pacific Island Countries to Gender Equity', South Pacific Forum Secretariat, Suva, Fiji.
- South Pacific Forum Secretariat (PIFS), 2000, 'Gender and Development: Good Practice from the Pacific', South Pacific Forum Secretariat, Suva, Fiji.
- South Pacific Forum Secretariat (PIFS), 1998, 'Information Guide: Commitments of Pacific Island Countries to Gender Equality', South Pacific Forum Secretariat, Suva, Fiji.
- South Pacific Forum Secretariat (PIFS), 1998, Gender Through Pacific Eyes, South Pacific Forum Secretariat, Suva, Fiji.
- South Pacific Regional Environment Programme (SPREP), 2002a, A Synopsis of information relating to Waste Management, Pollution Prevention and Improved Sanitation with a focus on Communities in the Pacific Island Region. IWP, South Pacific Regional Environment Programme, Apia, Samoa.
- South Pacific Regional Environment Programme (SPREP), 2002b, A Review of Lessons Learned and Best Practice in Integrated Coastal Watershed Conservation and Management Initiatives in the Pacific Island Region. IWP, South Pacific Regional Environment Programme, Apia, Samoa.
- South Pacific Regional Environment Programme (SPREP), 2002c, 'Community-Based Ecotourism and Conservation in the Pacific Islands: A Toolkit for Communities', South Pacific Regional Environment Programme, Apia, Samoa.
- South Pacific Regional Environment Programme (SPREP), 2003, Draft Toolkit: Stakeholder Participation, Facilitation and Social Assessment' International Waters Programme, South Pacific Regional Environment Programme (SPREP), Samoa
- South Pacific Tourism Organisation (SPTO), 2001, 'Environmental Management Guide for Small Hotels and Resorts', South Pacific Tourism Organisation, Suva, Fiji.
- Srinivasan, L., 1993, 'Tools for Community Participation: A Manual for Training Trainers in Participatory Techniques', PROWWESS/UNDP – World Bank Water and Sanitation Programme, Washington, D.C., United States of America.
- Summers, A., 2003, 'The End of Equality' published by Random House, Sydney Australia
- Tapealava, B., 1996, 'Groundwater pollution monitoring', unpublished, Tonga Water Board, Nukualofa, Tongatapu, Tonga.
- United Nations Development Programme (UNDP), 1990, 'Workshop on Goals and Indicators for Monitoring & Evaluation for Water Supply and Sanitation', UNDP- World Bank Water and Sanitation Programme, Geneva, Switzerland.
- United Nations Development Programme (UNDP), 1999, 'Pacific Human Development Report 1999: Creating Opportunities', United Nations Development Programme, Suva, Fiji.
- United Nations Development Programme (UNDP), 2002, ' Gender Equality: Practice Notes', United Nations Development Programme, New York, United States of America.
- United Nations Environment Programme (UNEP), 2000 Overview on Land-based Pollutant Sources and Activities affecting the Marine Environment, Coastal and Freshwater Environment in the Pacific Islands Region, United Nations Environment Programme in co-operation with SPREP, UNEP, Regional Seas Reports and Studies no. 174.
- United Nations Educational, Scientific and Cultural Organisation (UNESCO), 2001, 'Assessment of Resources, Best Practices and Gaps in Gender, Science and Technology in the Asia Pacific Region', United Nations Educational, Scientific and Cultural Organisation, Jakarta, Indonesia.
- [UNESCO] International Hydrological Programme (IHP), 2001, 'Integration of social and technical science in groundwater monitoring and management', International Hydrological Programme Humid Tropics Programme, IHP-V Theme 6, Technical Documents in Hydrology, No. 43, UNESCO, Paris.
- Directorate of Public Health [Vanuatu], 2001, 'Hand Book for Rural Sanitation & Hygiene Promotion, Environmental Health, Health Standard and Inspection Unit, Directorate of Public Health, Ministry of Health, Republic of Vanuatu. Assisted by UNICEF Pacific.
- United Nations Development Fund for Women (UNIFEM), 2002, 'Women, Men, Globalisation & Trade Liberalisation', United Nations Development Fund for Women, Suva, Fiji.
- University of the South Pacific (USP), 2002, ' Gender Policy', University of the South Pacific, Suva, Fiji.

- Vi, H., 2003, 'Effective Communication for Community Development' paper presented at "Water communication and community: Practical strategies for achieving equitable and sustainable water use in the Pacific" 11th – 12th September 2003, USP, Suva, Fiji.
- Visser, P.M., 2001, 'Vanuatu Rural Water Supply Technical Standards manual: A Construction and Design Standards Manual for Rural Water Supply Systems in The Republic of Vanuatu, The Department of Geology, Mines, Water Resources, Port Vila, Vanuatu.
- Voluntary Agency Support Scheme (VASS), 2000 'Participatory Appraisal Monitoring and Evaluation (PAME)', NZODA, Wellington, New Zealand.
- Wan Smolbag Theatre, 2000, 'WORA HEMI LAEF: Radio Serial Village Assessment Report, Port Vila, Vanuatu.
- Wan Smolbag Theatre, 2001, 'Rural Water Supply Interim Research Report: An Investigation into Rural Water Supply Systems in rural Vanuatu', Port Vila, Vanuatu.
- Waria Valley Habitat for Humanity, 1998, 'Buk Bilong Pasin Na Lo Bilong Prajek', Waria Valley Habitat for Humanity, Lae, Morobe Province, Papua New Guinea.
- Water Supply and Sanitation Collaborative Council (WSSCC), 2003, 'Washing the World Agenda: Kyoto a 10 Minute Briefing', Water Supply and Sanitation Collaborative Council, Geneva, Switzerland.
- White, O., 2003, Financing of rural water supply, in partially monetised communities, Draft discussion paper by resource economist, SOPAC, Fiji.
- White, I., Falkland, A., Crennan, L., Jones, P., Etuati, B., Metai, E. and Metutera, T., 1999, 'Issues Traditions and Conflict in Groundwater Use and Management' UNESCO IHP Theme 6 Tech Docs in Hydrology no. 25, UNESCO, Paris.
- World Health Organization (WHO), 1992, 'Guidelines for Drinking-Water Quality: Tables of Guideline Values', World Health Organisation, Geneva, Switzerland.
- World Health Organization (WHO), 1992, 'Guidelines for Drinking-Water Quality', World Health Organisation, Geneva, Switzerland.
- World Health Organisation (WHO), 1997, 'The PHAST Initiative: Participatory Hygiene and Sanitation Transformation: A New Approach to Working with Communities', World Health Organization, UNDP-World Bank Water and Sanitation Programme, Geneva, Switzerland.
- World Health Organisation (WHO), 1998, 'PHAST Step-by-Step Guide: A participatory approach for the control of diarrhoeal disease', World Health Organisation, Health and Environment Documentation Centre, Geneva, Switzerland.
- World Health Organisation (WHO), 2000, 'Global Water Supply and Sanitation Assessment 2000 Report', World Health Organisation and United Nations Children Fund (UNICEF) Joint Monitoring Programme for Water Supply and Sanitation, Geneva, Switzerland.
- Women Development Centre (n.d.), 'National Policy on Gender and Development: Towards Gender Equity, Harmonious Society and a Better Future for All, Women in Development, Tonga.
- Wijk-Sijbesma, C.V., 1985, 'Participation of Women in Water Supply and Sanitation: Roles and Realities', Technical Paper Series 22, International Reference Centre for Community Water Supply and Sanitation, The Hague, The Netherlands.
- Wijk-Sijbesma, C.V., 1998, 'Gender in Water Resources Management, Water Supply and Sanitation', International Water and Sanitation Centre (IRC), Delft, The Netherlands.
- Wijk-Sijbesma, C.V., 2001, 'The Best of Two Worlds? Methodology for Participatory Assessment of Community Water Services', Technical Paper Series No. 38, International Water and Sanitation Centre (IRC), Delft, The Netherlands.
- World Bank, 1996, 'The World Bank Participation Sourcebook', The World Bank, Washington DC, United States of America.
- Worah, S., Svendsen, D.S. and Ongleo, C., 1999 'Integrated Conservation and Development: A Trainer's Manual', Integrated Conservation and Development Training Programme (ICDP), Asian Institute of Technology and WWF – International, Khlong Luang, Thailand.

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APPENDIX A ORGANISATIONS' RESPONSE TO QUESTIONNAIRE SURVEY

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Adi Davila Toganivalu Email: dtoganivalu@unicef.org	Fiji	UNICEF Pacific	UN	N/a	Questionnaire received Interview
Annie Homasi Email: tango@tuvalu.tv	Tuvalu	TANGO	NGO	N/a	No response
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Asenaca Ravuvu Email: asenaca.ravuvu@undp.org	Fiji	UNDP	UN	N/a	No response Interview with Asenaca
Aung Kumal Email: akumal@global.net.pg	Papua New Guinea	Village Development Trust (VDT)	NGO	Village Development Trust: Eco-homes Operations Guidelines	Questionnaire received
Catherine Sparks Email: cusovila@vanuatu.com.vu	Canada	Canadian Universities Services Overseas (CUSO)	NGO	N/a	No response
Chris Ioan Email: rws@vanuatu.gov.vu	Vanuatu	Geology, Mines & Water Resources	Govt	Komuniti Developmen Mo Wotae Suplae Planning Workshop (Community Development for Water Supply Planning workshop)	Q/nnaire not used Interview
Christian Nielsen Email: livelearn@optusnet.com.au	Australia	Live & Learn Environmental & Development Education	NGO	N/a	Questionnaire received
Craig Pratt Email: craig@bluesquid.net	New Zealand	South Pacific Applied Geoscience Commission (SOPAC)	Regional	Environmental Management Guide For Small Hotels & Resorts (South Pacific Tourism Organisation)	Q/nnaire not used
Cyril Kondang Email: PNGCDI11@oilsearch.com	Papua New Guinea	Community Development Initiatives (CDI) Foundation	NGO	Second Edition Guide of Community Organisers Manual: Using Participatory Rural Appraisal Tools	Q/nnaire not used
Daniel Ponzi Email: dponzi@adb.org	Australia	Asian Development Bank (ADB)	Donor	N/a	No response
David Cram Email: dcram@adventist.org.fj	Fiji	Adventist Development & Relief Agency (ADRA)	NGO	Capacity building for local community water systems (1999/2000 report)	Q/nnaire not used
David Syme Email: drsyme@adra.org.au	Australia			Environmental Health Capacity Building in Serua & Namosi Provinces, Republic of Fiji	
David Wyler Email: d.wyler@tcdt.to	Tonga	Tonga Community Development Trust (TCDT)	NGO	N/a	No response
Don Cockburn Email: Don.Cockburn@cuso.ca	Canada	Canadian Universities Services Overseas (CUSO)	NGO	N/a	No response
Enrico Strampelli Email: Enrico.strampelli@enreu.org.fj	Fiji	European Union (EU)	Donor	1) EU - Water management in developing countries policy & priorities for EU development co-operation - (downloaded) 2) Guidelines for Water Resources Development Cooperation: Towards Sustainable Water Resources Management: A Strategic Approach	Questionnaire received Interview
Felicity Bollen Email: felicity@piango.net	Fiji	Pacific Islands Association of NGO's (PIANGO)	NGO	Strengthening NGO Effectiveness: Strategic Plan 2001-2005	No response Interview
Floyd Robinson Email: robinson_floyd@hotmail.com	Fiji	Partners in Community Development (PCDF)	NGO	1) PLA Guidelines for Cuvu Conservation Project 2) Darwin Initiative for the Survival of Species: Coral Reef Conservation/ Waibulabula Project - Fiji	Questionnaire received Interview
Fu-Tien Liu Email: tmroc@connect.com.fj	Fiji	Republic of China Embassy	Donor	N/a	No response

APPENDIX A ORGANISATIONS/ RESPONSE TO SURVEY

CONTACT	COUNTRY	ORGANISATION	TYPE	GUIDELINES PROVIDED	QUESTIONNAIRE
Geoff Green Email: ggreen@fijiwater.gov.fj	Fiji	PWD	Govt	PWD Rural Water Supply Policy	Interview
Georgina Bonin Email: mutaaga.faalogo@undp.org	Samoa	UNDP Samoa	UN	Gender Equality: Practice – d/loaded	Questionnaire received
Hans Thulstrup Email: thuls@samoa.ws	Samoa	UNESCO	UN	N/a	No response
Imogen Ingram Email: 2tis@oyster.net.ck	Cook Islands	Nga Mataiapo o Rangiatea	NGO	N/a	Questionnaire received
Jaqueline Elliot Email: c/o mutaaga.faalogo@undp.org	Samoa	UNDP Samoa	UN	UNDP Gender Policy (downloaded)	Questionnaire received
Jennifer Ligo Email: jennyl.vncwceo@vanuatu.com.vu	Vanuatu	Vanuatu National Council of Women	NGO	N/a	No response
John Tavo Email: jtavo@fijiwater.gov.fj	Fiji	Public Works Department (PWD)	Govt	PWD Rural Water Supply Policy	Geoff Green (PWD) answered questionnaire Interview
Jone Vakaloloma Email: Jone.Vakaloloma@dfat.gov.au	Fiji	AUSAID (Australian High Commission)	Donor	Australian Civil Society Support Program Guidelines Australian Community Assistance Scheme Fiji	Q/nnaire not used
John Wigglesworth Email: john.wigglesworth@hokiangahealth.org.nz	New Zealand	Hokianga Health Enterprise Trust	NGO	N/a	Questionnaire received
Khalid Mohtadullah Email: Khalid.mohtadullah@sida.se	Sweden	Global Water Partnership Secretariat (GWP)	Donor	N/a	No response
Kyaw-Myint Email: tkyawmyint@unicef.org	Fiji	UNICEF Pacific	UN	N/a	Questionnaire received Interview
Leon Prop Email: ifrcfj00@ifrc.org	Fiji	International Federation of Red Cross & Red Crescent Societies (IFRC)	NGO	1) The Sphere Project: Humanitarian Charter & Minimum Standard in Disaster Response 2) IFRC Mission Assistant (CD Rom)	Questionnaire received Interview
Linda Petersen Email: linda.petersen@undp.org	Fiji	UNDP	UN	N/a	No response Interview with Asenaca
Litiana Kuridrani Email: l.kuridrani@fsm.ac.fj	Fiji	Fiji School of Medicine (FSM)	Research Institution	1) PH243 - Project & Participatory Management Introduction & Assignment Booklet 2) PH243 - Project & Participatory Management Course Book (FSM)	Q/nnaire not used Interview
Lorrelle Evans Email: ljevans@adra.org.au	Australia	Adventist Development & Relief Agency (ADRA)	NGO	Capacity building for local community water systems (1999/2000 report) Environmental Health Capacity Building in Serua & Namosi Provinces, Republic of Fiji	Q/nnaire not used
Manuel Soriano Email: Manuel.soriano@undp.org	Malaysia	UNDP	UN	N/a	No response
Margaret Sete Email: kana_frieda@datec.com.pg	Papua New Guinea	NANGO	NGO	N/a	No response
Maru Talagi Email: talagi_m@usp.ac.fj	Niue	Niue Association of NGO's (NIUANGO)	NGO	N/a	No response
Matarita Nabong Email: matsy63@yahoo.com	Kiribati	Te Isibwerere Community Theatre	NGO	N/a	No response
Martin Walshe Email: m-walshe@dfid.gov.uk	United Kingdom	Department For International Development (DFID)	Donor	1) Stakeholder Participation & Analysis 2) Participatory Monitoring & Evaluation Guidelines: Experiences in the Field: St Vincent & the Grenadines	No response

APPENDIX A ORGANISATIONS/ RESPONSE TO SURVEY

CONTACT	COUNTRY	ORGANISATION	TYPE	GUIDELINES PROVIDED	QUESTIONNAIRE
Marilyn Tahi Email: vwnc@vanuatu.com.vu	Vanuatu	Vanuatu Women Center	NGO	N/a	No response
Mitesh Mudaliar Email: mitesh@livelearn.org.fj	Fiji	Live & Learn Environmental & Development Education	NGO	N/a	Questionnaire received Interview
Mohammed Hassan Khan Email: fcoss@connect.com.fj	Fiji	Fiji Council of Social Services (FCOSS)	NGO	N/a	Questionnaire received Interview
Molly Hellmuth Email: M.E.Hellmuth@Alterra.wag-ur.nl	Netherlands	Dialogue on Water & Climate Secretariat	Donor	N/a	No response
Mosese Salusalu Email: mosalusalu@hotmail.com	Fiji	National Centre for Health Promotion (falls under Fiji's Ministry of Health)	Govt	N/a	No response Interview
Mosese Waqa Email: mosesewaqa@yahoo.com.au He has now left JICA	Fiji	Japanese International Cooperation Agency (JICA)	Donor	1) Manual on Integrating Women In Development Considerations into Development Programs 2) Recommended ADRA community -based water project in Fiji on as model: Capacity building for local community water systems (1999/2000 report)	Questionnaire received Interview
Mutaaga Enosa- Faalogo Email: mutaaga.faalogo@undp.org	Samoa	UNDP Samoa	UN	No g/lines on CP. UNDP has a policy stance with respect to gender equity (focusing on many areas, not just water/sanitation)- The Policy document is called, 'UNDP Gender Policy'- (downloaded)	Questionnaire received
Neil Netaf Email: nnetaf@pcrc.org.fj	Fiji	Pacific Islands Association of NGO's (PIANGO)	NGO	Strengthening NGO Effectiveness: Strategic Plan 2001-2005	No response Interview
Nilanjana Mukherjee Email: nmukherjee@worldbank.org	East Asia and the Pacific	Water & Sanitation Program (World Bank)	Donor	Sustainability Planning & Monitoring in Community Water Supply & Sanitation	Answers to q/nnaire in email response
Noeline Browne Email: noeline@cookislandsnews.com	Cook Islands	Avana Muri Marine Action Group	NGO	N/a	Questionnaire received
Penina Namata Email: pnamata@wwfpacific.org.fj	Fiji	World Wide Fund for Nature Fiji Country Programme (WWF Fiji)	NGO	1) People & Plants Toolkit: Managing Local Knowledge for Plant Conservation & Ecology 2) Integrated Conservation & Development: A Trainer's Manual	Questionnaire received Interview
Peter Glensor Email: pglensor@xtra.co.nz	New Zealand	ANGOA	NGO	N/a	No response
Rebekah Seidel Email: cusopacific@vanuatu.com.vu	Canada	Canadian Universities Services Overseas (CUSO)	NGO	N/a	No response
Ritsu Nacken Email: ritsu.nacken@undp.org	Fiji	UNDP	UN	Mainstreaming Gender in Water Management- (downloaded)	Q/nnaire not used
Roger Cornforth Email: roger.cornforth@mfat.govt.nz	New Zealand	NZAID	Donor	Gender & Development Policy – downloaded	Questionnaire received
Ruby Willis Email: rbyw@cenpac.net.nr	Nauru	NIANGO	NGO	N/a	No response
Ruiti Aretaake Email: Finance.fsp@tskl.net.ki	Kiribati	KANGO	NGO	N/a	No response
Sarah Ekali Email: SarahEkali33@hotmail.com	PNG	Chevron Nuigini	NGO	Tools for Community Participation: A Manual for Training Trainers in Participatory Techniques	Questionnaire received
Shireen Lateef Email: slateef@adb.org	Philippines	ADB	Donor	1) ADB Gender Checklist: Water Supply & Sanitation – (downloaded) 2) Water for All: The Water Policy of the Asian Development Bank	Responded to questionnaire by sending Gender Checklist: Water & Sanitation

APPENDIX A ORGANISATIONS/ RESPONSE TO SURVEY

CONTACT	COUNTRY	ORGANISATION	TYPE	GUIDELINES PROVIDED	QUESTIONNAIRE
Shirley Atatagi-Coutts Email: Shirley_atatagicoutts@fi.greenpeace.org	Fiji	Greenpeace	NGO	N/a	Questionnaire received
Sofia Bettencourt Email: Sbettencourt@worldbank.org	Australia	World Bank	Donor	Sustainability Planning & Monitoring in Community Water Supply & Sanitation	Q/nnaire not used
Stuart Whitehead Email: Swhitehead@worldbank.org	Thailand	World Bank	Donor	N/a	No response
Sushila Zeitlyn Email: zeitlyn@dfid.gov.uk	United Kingdom	Department For International Development (DFID)	Donor	1) Stakeholder Participation & Analysis 2) Participatory Monitoring & Evaluation Guidelines: Experiences in the Field: St Vincent & the Grenadines	No response
Tebiketi Tanielu Email: finance.fsp@tskl.net.ki	Kiribati	Kiribati Cultural & Reading Association	NGO	N/a	No response
Timothy Young Email: tyoung@health.gov.fj	Fiji	Ministry of Health	Govt	Water, Sanitation & Health Electronic Library (CD rom)	Questionnaire received Interview
Tina Takashy Email: fsmfrc@mail.fm	FSM	FANGO	NGO	N/a	Q/nnaire received
Vereara Maeva Email: ciango@oyster.net.ck	Cook Islands	CIANGO	NGO	N/a	No response
Virginie Coustet Email: coustet@ambafrance.org.fj	Fiji	The French Embassy	Donor	1) ILO: Government Programmes in France - Equal Employment Opportunities-downloaded 2) National Programme of Action Guidelines in France - Ministry of Employment-downloaded	Questionnaire received Interview
Waisele Delai Email: info@health.gov.fj	Fiji	Ministry of Health	Govt	Laws of Fiji: Chapter 111, Public Health Act	Questionnaire received Interview
Yati Bun Email: yabun@datec.com.pg	PNG	Foundation for People & Community Development	PNG	N/a	No response
Yvonne Green Email: yvonne_green@ausaid.gov.au	Australia	AUSAID	Donor	1) Guide to Gender & Development- downloaded 2) Gender Guidelines: Water Supply & Sanitation: Supplement to the Guide to Gender & Development	Questionnaire received

Key

- Q 1a - What does Community Participation mean to you as the respondent?
 Q 1b - What does Community Participation mean to your organisation?
 Q 1c - Does your organisation practice Community Participation?
 Q 2a - When your organisation implements water supply and sanitation projects, which members of the community are usually involved in the Community Participation process?
 Q 2b - Who, in your NGO, facilitates the Community Participation process?
 Q 2c - What has been the outcome of employing a Community Participation approach?
 Q 2d - What has been the outcome of employing a 'Community Participation' approach? Positives and negatives?
 Q 2e - What do you understand by gender equity?
 Q 2f - Do you think it is important to address gender issues in water and sanitation programs? If yes, why? Any other comments on gender considerations?
 Q 3a - Does your organisation have specific guidelines/manuals to follow when implementing water and sanitation projects?
 Q 3b - If so, please provide titles or description
 Q 3c - Is the use of these guidelines reviewed, and by whom?
 Q 3d - In which projects have the guidelines been used?
 Q 3e - What was the impact on the project of using the guidelines?
 Q 3f - How useful were the guidelines for fieldworkers?
 Q 4a - Does your organisation work with government in your water and sanitation projects? Yes/No. If yes, please explain your arrangement and levels of responsibility. If no, is this something you consider would be valuable?
 Q 4b - Do the government personnel use any community participation guidelines?
 Q 5 - Do you feel that your organisation has an appropriate level of input (say) in the implementation of water and sanitation projects in terms of the overall management/ownership of the project?
 Q 6 - Who funds the water and sanitation projects implemented by your organisation?
 Q 7a - Do these donors have specific guidelines in place for community participation and water supply/sanitation projects? Yes/No. Please explain.
 Q 7b - Are these guidelines useful to you?
 Q 8 - What, if any, were the major information gaps identified in the implementation of your organisation's water and sanitation projects?
 Q 9 - What formats/media have you found to be most helpful for understanding and using guidelines (e.g. short booklet, illustrated case studies, flip charts, video, etc)?

QUEST.	HOKIANGA HEALTH ENTERPRISE TRUST (JOHN WIGGLESWORTH)	LIVE & LEARN ENVIRONMENTAL & DEVELOPMENT EDUCATION FIJI (MITESH MUDALIAR)	VILLAGE DEVELOPMENT TRUST PNG (AUNG KUMAL)	TAPOROPOROANGA IPUKAREA SOCIETY INC. COOK ISLANDS (IMOGEN INGRAM)
Q 1a	Involvement of communities – decision making processes on issues that directly affect them. Involvement of communities in implementation of solutions. The devolvement of resources to communities to take responsibility for solutions to issues that affect them	Equal opportunity for all members of a community irrespective of age, sex or position in society, in engaging in discussion/ decision making	Communities collectively making decisions & owning them	Meaningful input from the community, ie. Consultation through explanations at meetings
1b	Same as 1a. Hokianga Health refers to a principle called 'subsidiarity' and a Maori principle called 'Tino Rangatiratanga'	Open participatory processes where everyone is given equal opportunity to engage in discussion,debate. Learn, listen & share ideas free from fear of predetermined conclusion belief/judgement	Communities empowered to make & own decisions that decide their own destiny in a positive way	Calling village meetings, explaining the purpose of the mtg., obtaining response of audience & participation of stakeholders in achieving a community project
Q 1c	Yes. 26 community trustees, community owned and governed integrated health service	Yes. L & L does not however, work with communities as yet, all our projects governed by understanding of participation	After some review, evaluation, VDT has decided to have a CP & process component that will carry out the CP process before any other program is carried out- have a draft community entry process g/line, which will be carried out in 2004	Yes, have assisted a community group in holding public meetings about degradation of lagoon H ₂ O as a consequence of land use

APPENDIX B.1 RESPONSES TO QUESTIONNAIRE – NGOS

QUEST.	HOKIANGA HEALTH ENTERPRISE TRUST (JOHN WIGGLESWORTH)	LIVE & LEARN ENVIRONMENTAL & DEVELOPMENT EDUCATION FIJI (MITESH MUDALIAR)	VILLAGE DEVELOPMENT TRUST PNG (AUNG KUMAL)	TAPOROPOROANGA IPUKAREA SOCIETY INC. COOK ISLANDS (IMOGEN INGRAM)
Q 2a	Communities where the responsibility lies. The communities that wish to take on this responsibility & have the skills, knowledge to do so. Where the skills do not exist, we train them	L & L is not engaging with communities. Our activities target schools	Community leaders, youth, women, community school teachers, church/health workers in community, local level govt. representative, reps from the District Administration from the provincial govt.	Personnel from Public Health Division of Ministry of Health, Environment Service & H ₂ O Division of Ministry of Works act for govt, landowners who own H ₂ O catchment area and land surrounding lagoon, residents of district and reps of NGO's
Q 2b	Myself CEO and our water project coordinator, Hore Taimona (member of Community Development Team)	All staff members	Letters sent out, pass word to the community well in advance, after everyone is informed, and confirmed arrangements, meeting is held so that all com members who are supposed to be at meeting are there, the focus is primarily on leaders/resource owners & beneficiaries	Various sub-committees comprising of 3-4 people which address specific issues, eg community awareness, scientific project subcommittee, liaison with govt agencies
Q 2c	36 water treatment plants installed at each marae in our area (Hokianga). 2 community water treatment plants – approximately 150 houses	Quite effective, productive	Community participation process component to organise & carry out CP process	Tremendous interest generated in community at large by our public mtgs & findings of our scientific subcommittee which conducted a 6 month lagoon H ₂ O quality testing program lead by a PHD student researcher
Q 2d	N/a	N/a	Positive- communities make collective decision Negative- lack of responsibility & ownership of project	Positives- More ownership of the problem, greater interest in the solutions. Great interest in our environment & surrounds as many of the l/owners & community are also owner operators of boutique accommodation units, therefore, impact of degradation of lagoon has a direct impact on them Negatives- lack of funding from outside, authorities seem to feel that community working together should be sufficient to fix problem. Authorities are trying to absolve themselves of their responsibility to provide proper sewage solutions for community
Q 2e	N/a	N/a	Involvement of both men & women as equal partners & beneficiaries of projects	When men & women have an equal say & authority over matters
Q 2f	N/a	N/a	Yes, because men & women use H ₂ O in their activities. Women's use of H ₂ O more than men, thus, more important that women are actively involved in H ₂ O /sanitation programs	I cannot see the correlation
Q 3a	No	Yes	Yes	No. Just work on an ad-hoc basis in cooperation with other NGO's, owing to lack of funds, resources
Q 3b	N/a	Best Practise Manual, MOU's with the Ministry & other Stakeholder's including donors	VDT Eco-homes Operations G/lines	N/a
Q 3c	N/a	Yes. Board of L & L & consultation with stakeholders where appropriate	VDT is planning to review the Eco-homes g/lines so that H ₂ O & sanitation is included as part of the Eco-home concept	N/a
Q 3d	N/a	All L & L projects are governed by these guidelines	The Waria Valley project are of Morobe Province, PNG	N/a
Q 3e	N/a	Projects have been implemented more effectively	VDT- wise utilisation of forest resources including H ₂ O shed mgt for better rural homes, H ₂ O supply/san program to complement the Eco-home concept	N/a

APPENDIX B.1 RESPONSES TO QUESTIONNAIRE – NGOS

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Q 3f	N/a	Define the approach which field workers need to adopt during Project implementation	VDT fieldworkers use the g/line to plan & utilise forest resources for eco-home construction, H ₂ O supply/san an integral part of VDT Eco-home concept	N/a
Q 4a	Yes. The Ministry of Health partnership and principle of contract for the Hokianga Pilot Project. Hokianga Health was responsible for these contracts- Management/consultation, Engineering Design- Engineering Manufacture & Installation. The Ministry of Health was responsible for the project evaluation	Yes, Rivercare would not be successful without the engagement & support of the Ministry of Education. The MOE gives approval for L & L to work with schools. Partnership with MOE very valuable	Not at the moment, would like to work with govt on local level. Govt level on H ₂ O supply/san program to complement the VDT Eco-home concept	No. Yes, we could consider it valuable but up till now the govt depts concerned are not interested in working in partnership & indeed competed successfully against us, in partnership with local mayor, in the UNDP funded IWP
Q 4b	No	Not sure	Not sure, probably not	There appears to be some developments in the current IWP project at Takuvaine Valley but we are unaware of their g/lines
Q 5	Yes	Yes.	Only in our project area where H ₂ O supply/san is considered as part of the eco-homes program	We have not been given any role in implementation of H ₂ O or sanitation projects. Indeed, we have been ignored & regarded as a hindrance
Q 6	Ministry of Health, Auckland Savings Bank Charity Trust, Ministry of Internal Affairs, Te Puni Kokiri & NZ Lotteries	Rivercare funded by NZAID & Japanese government	The community	Most of our lagoon H ₂ O quality testing was carried out by volunteers, & another NGO (WWF) paid for freight costs to send samples offshore for laboratory tests. We have been offered a small sum towards education but have not yet been able to uplift the funds
Q 7a	No	No	N/a	WWF is very community oriented. UNDP's IWP had very specific g/lines which in our opinion were not adhered to. For instance, IWP pilot project funds were specifically earmarked for a community-based project. Instead, the funds were allocated to two projects, one of which was proposed by Te Au O Tonga Vaka Council, a local govt unit. By definition, we believe that this does not mean community-based as defined by UNDP
Q 7b	N/a	N/a	N/a	The UNDP g/lines may have been useful to us, had they been followed. We felt that as we had backing & involvement of landowners & community, prior to submitting our project proposal, our grp was truly community-based organisa ⁿ
Q 8	Very little support from local govt., where the usual responsibility & expertise arises. Our local authority. Far North District Council were not interested in the project	N/a	H ₂ O quality, appropriate community based design & engineering from forest resources for H ₂ O/san projects	Nutrients such as nitrates & phosphates are contributing to degradation of lagoon (resulting in toxic algal blooms) while govt lagoon H ₂ O quality testing focused only on faecal coliform counts
Q 9	N/a	Booklet, poster	Have not tried any of these formats, would like to try all the formats above for understanding, using g/lines with our targeted communities	From experience in conducting village meetings, videos, Powerpoint demonstrations, slides, illustrated case studies & flip charts have all been very useful

APPENDIX B.1 RESPONSES TO QUESTIONNAIRE – NGOS

QUEST.	PCDF (Floyd Robinson)	GREENPEACE (Shirley Atatagi-Coutts)	CHEVRON NIUGINI (Sarah Ekali)	IFRC (Leon Prop)	LIVE & LEARN ENVIRONMENTAL EDUCATION Australia (Christian Nielsen)	FSM ASSOCIATION OF NGO'S (Larry Bruton)	FCOSS (Hassan Khan)	WWF (Penina Namata)
Q 1a	Active participation of resource owners	Involvement of community in project implementation	Community participating together in a project, working together as a team, not individually	Full participation in all aspects of design, planning, implementation, monitoring, follow-up and evaluation	The active involvement of the community, eg. Intended beneficiaries of the project, to be involved in the identification of issues, project design, implementation & evaluation. The community participants should include a variety of groups within that community including marginalised people. Continuous feedback between community and project teams is required in CP process, only with active involvement of the community/beneficiaries local ownerships & sustainability of a project can be achieved	Community education & awareness, community awareness of community needs, problems & cooperative involvement bringing about solutions	Being involved in the entire project. The total involvement of the community from the visualising to recording ideas, discussing them, appraising them, drawing up a plan of action, implementing them. CP must also address the question of sustainability for the future generation- this is neglected in most development projects. Monasavu Dam and electricity supply – a good example of short-sightedness of those who planned it	50/50 based, partnership, bottoms-up & top-down approach, WWF listening to the community, partnership is equal
Q 1b	Sustainability, ownership of project, working with the 'existing structure'	Same as 1a	Bottoms up approach, not top down, working as a team, listening to employee's needs, work together as an organisation	As in 1a	CP is sought at the initial/research stage of project. Issues identified after consultation of beneficiaries & project design follows from these consultations, extensive social research involved. Project design done in close cooperation with local community members. Training provided, materials developed to be used as guidelines only, implementation is done by locals & with local input from beneficiaries, circumstances in mind. Feedback during implementation of project is thought at regular intervals from beneficiaries, other affected groups. Development of critical thinking skills, dialogue & social mobilisation skills- Live and Learn philosophy	Same as 1a	FCOSS – involves the whole community in their project implementation. Project training done before implementation & it has maintained the philosophy of the director, not easy to bring about the realisation of the ideals – community politics	Partnership, bottoms-up approach, WWF are facilitators, decisions made by the community & for the community

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Q 1c	Yes	Varies with different environmental campaigns	Yes	Certainly try to promote this, actual level of participation depends on operational circumstances	Yes	Yes	Yes	Yes
Q 2a	1 st Phase – Village Headman 2 nd Phase – Training Workshops, men and women involved 3 rd Phase – Community run with the project	No comment	Yes, it is their project and they make decision, take care of the project & not the organisation	A cross-section of the community should be involved, actual participation in implementation may depend on the type of work or circumstances	The beneficiaries such as women, elderly, men, the church, children, teachers, chiefs, community grps, other NGO's, local & central govt departments	Educators, mayors, church leaders & community leaders (family leaders)	All communities in Fiji – stated in the FCOSS Annual Report 2002. villagers, donors, contractors & FCOSS officials. Tension & division within the village- exclusion from participation. Solution to exclusion- sufficient grants to focus on community dev processes, streamlining decision making mechanism through good governance programme	WWF to date does not have any projects per se, focused on water supply/sanit ation. Wish to have H ₂ O & sanitation projects in future. In all projects, the community is involved in the CP process. Women's active involvement can be a problem at times because they have many tasks to carry out during the day
Q 2b	Community Officer assigned in PCDF, everyone working on the project team	Public Outreach campaigner based (Sydney based), local grps coordinator, volunteers (Suva based)	Yes, they (NGO) facilitate but the decision is within the community. They decide what is best for them	The delegate in charge of the programme & projects also facilitated this process	All Live and Learn staff involved in training work	Focus – on groups mentioned in 2a. We seek community matching funds whether matching in terms of dollars or in kind goods or services	FCOSS Executive Director, voluntary community leaders at district levels. Recently. A filed officer working full- time. Reason for his leaving FCOSS- lack of funds	5 project officers, all facilitate WWF's marine project in Kadavu & has been gazetted by govt.

APPENDIX B.1 RESPONSES TO QUESTIONNAIRE – NGOS

QUEST.	PCDF (Floyd Robinson)	G/PEACE (Shirley Atatagi- Coutts)	CHEVRON NIUGINI (Sarah Ekali)	IFRC (Leon Prop)	LIVE & LEARN ENVIRON ED. Aust (Christian Nielsen)	FSM ASSOCIATION OF NGO'S (Larry Bruton)	FCOSS (Hassan Khan)	WWF (Penina Namata)
Q 2c	Solid foundation laid. R/ships between the village, Fijian resort and stakeholders have improved	Sense of ownership of the work to the local people/com munities, empowering them to achieve results needed for healthy environment	Successful, people participated well	Where CP is high, the overall intervention is more successful, sustainability of the project is more likely, higher degree of ownership, involvement and shared responsibility	Relevancy of the projects, active involvement & high level of local ownership that results/will result in sustainability of projects	All members	Project training-carried out by FCOSS before project implementation. Community/ villagers know what will be done in their village, become involved before project implementation. Project implementation-almost 100% success rate. Projects were completed. Some water & sanitation projects becoming dormant after a few yrs due to drying of the water source. Lack of finance-not possible for FCOSS to re-visit the project & do proper evaluation on sustainability. Urgently request SOPAC to provide requests	Communities now trust WWF. WWF's marine project in Kadavu has now been gazetted by government
Q 2d	N/a	N/a	N/a	N/a	N/a	Anticipated outcome- always the desire for a sense of community ownership & pride in a job well done	N/a	N/a
Q 2e	N/a	N/a	N/a	N/a	N/a	Incorporates equal opportunity of participation to all community members regardless of gender	N/a	N/a
Q 2f	N/a	N/a	N/a	N/a	N/a	Yes. Women – I believe that women have a keen sense of awareness of sanitation needs of their family and community. Family health & community health are a primary concern of most women within most cultures around the world.	N/a	N/a

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QUEST.	PCDF (Floyd Robinson)	GREENPEACE (Shirley Atatagi-Coutts)	CHEVRON NIUGINI (Sarah Ekali)	IFRC (Leon Prop)	LIVE & LEARN ENVIRON. ED.Aust (Christian Nielsen)	FSM ASSOCIA ⁿ OF NGO'S (Larry Bruton)	FCOSS (Hassan Khan)	WWF (Penina Namata)
Q 3a	Yes	No	Yes	Yes	Organisational practices, no specific g/lines on CP, however, an overall philosophy in mind on CP exists	Yes	Not on paper, FCOSS has theoretical g/lines- 'barefoot manual'	Yes
Q 3b	PLA Guidelines for Cuvu Conservation Project – Hugo Govan	N/a	Tools for CP: A manual for training the trainers in participatory techniques	IFRC H ₂ O and Sanitation Mission Statement (CD rom), IFRC Handbook for Delegates (h/book & Cdrom), IFRC general policies, code of conduct, SPHERE project (recommended min. standards)	N/a	Individual projects- have their own sets of guidelines as required by donors to a specific project	N/a	People and Plants Toolkit: Managing Local Knowledge for Plant Conservation and Ecology- Compiled by Kesaia Tabunakawai, Diane Goodwillie Integrated Conservation and Development: A Trainer's Manual- Sejal Worah, Dian Seslar Svendsen & Caroline Ongleo, Guidelines for WWF- Fiji Country Program Annual Work Plan FY 2003
Q 3c	The g/lines is a working document. Not formally changed	N/a	Yes, Lyra Srinivasan (latest review)	Yes, relevant technical departments at the IFRC Geneva h/quarters. Policy g/lines reviewed by IFRC's General Assembly, SPHERE g/lines currently revised globally	N/a	Donor organisations/ clubs as prescribed in project agreements	N/a	Yes. Reviewed after 3 yrs to identify what were the lessons learnt in the projects as WWF Fiji move from community to community
Q 3d	Natural Conservation Projects, eg. Waibulabula and Coral Gardens Project	No comment	Water and Sanitation	Repair and rehabilitation of rural H ₂ O supplies on Vanua Levu. Community Participation in non-skilled voluntary labour estimated at 32,000 hours	N/a	Xavier High School Compost Project Facility	FCOSS applies CP in all projects	All projects

APPENDIX B.1 RESPONSES TO QUESTIONNAIRE – NGOS

QUEST.	PCDF (Floyd Robinson)	G/PEACE (Shirley Atatagi-Coutts)	CHEVRON NIUGINI (Sarah Ekali)	IFRC (Leon Prop)	LIVE & LEARN ENVIRON. ED. Aust. (Christian Nielsen)	FSM ASSOCIA ⁿ OF NGO'S (Larry Bruton)	FCOSS (Hassan Khan)	WWF (Penina Namata)
Q 3e	PCDF's capacity built, villagers actively engaged in project, partnerships built with stakeholders	No comment	People participated and shared ideas freely without feelings of rejection, unaccepted in the community, been left out of project benefits	Project completed successfully within specifications	N/a	Project is still on going. Project guidelines help with keeping professional standards and timelines	100% success in project implementation	Enable WWF to achieve their goals, it is easy for WWF to come up with lessons learnt from the projects, the communities buy into the project, g/lines are friendly to the communities
Q 3f	VERY useful	No comment	VERY useful	No answer	N/a	Assist them keep better perspective on project progress. Due to the isolation of the Chuuk Islands, it is frequently necessary to revise project g/lines in terms of progress timetables in regards to importation of materials, supplies & replacement parts	Hard to access- no funding	For Penina: She is a fieldworker, g/lines were useful, systematic. The approach strengthened Penina's capacity as well. The f/workers were 'enriched' by the 50/50 approach of the CP process
Q 4a	Yes. Government provide technical capacity, PCDF provide awareness raising	No	Yes. Organisation facilitates and guides the project, the govt and MOST importantly the people who will own the project, they take the lead in decision making	Yes, projects were carried in consultation with PWD and local health inspector-s	Yes	Yes, sometimes Govt. participation- assistance with identification of needs. Recently, one of our projects received matching funds from the FSM national govt. Other participation-cooperative use of government owned/operated heavy equipment when needed to excavate or haul materials & supplies. Partnership understanding & informal agreements are often beneficial to success with CP projects performed by NGO's	Yes. FCOSS works with Ministry of Health, PWD and district offices. FCOSS facilitates grants from donor agencies, community and social dev projects & programmes	Yes. Most of the f/workers work with govt. for eg, Fisheries, Fijian Affairs, Town & Country Planning, Agriculture and Forestry. WWF write formal letters to govt., requesting for their assistance, few weeks prior to project commencement. WWF pay for everything for the govt. workers from their transportation to wages. WWF draw up a TOR/MOU for the govt. people & govt provide WWF with a report

APPENDIX B.1 RESPONSES TO QUESTIONNAIRE – NGOs

QUEST.	PCDF (Floyd Robinson)	GREENPEACE (Shirley Atatagi-Coutts)	CHEVRON NIUGINI (Sarah Ekali)	IFRC (Leon Prop)	LIVE & LEARN ENVIRON. ED. Aust. (Christian Nielsen)	FSM ASSOCIATION OF NGO'S (Larry Bruton)	FCOSS (Hassan Khan)	WWF (Penina Namata)
Q 4b	Govt. use the PLA guidelines (PCDF)	No comment	Yes	No answer	Not that we are aware of	I do not know	Yes, perhaps during their prog sessions in the villages, shared with us by some of the District Offices as their mode of Community Participation	No
Q 5	Participatory approach-PCDF has Technical Expertise-PCDF lacks Participatory approach creates ownership	No comment	Yes	Yes	Yes	Yes	Yes, to some extent. Expect the community to handle this part of the project because that is what is self-reliance is about, strongly of the view that if CP is applied correctly, this aspect rests squarely on the people not FCOSS/any other organisa ⁿ	WWF is the facilitator & funder of all projects, thus, the communities have the overall say, management of the projects
Q 6	Darwin Initiative, Network Foundation and funds from Fijian Resort-Waibulabula project	N/a	AUSAID, it depends, the organisation does it for the community and land owners, sometimes through donor agencies	International appeals, EU, other donors	Aid organisations, corporate donors and our membership	Our local club, other clubs within our district, sister clubs, rotary international, other NGO's outside of Rotary International	AUSAID, Canada Fund, NZAID, other civil society organisations, Japanese Aid	WWF funds the projects, through donor agencies such as Canada Fund, MacArthur and WWF International
Q 7a	G/lines requested in proposal from donors	N/a	Yes	IFRC adheres to SPHERE standards, makes this explicit in its appeals. Donors do not generally specify further g/lines to be followed	Best practice or policies in place on CP	Some do & some do not. We are entrusted with accountability by Rotary Int. as well as donors interacting with our local club	Yes, the CP procedures FCOSS follow – largely what the agency require	Yes. The donors state that ALL projects are to be owned by communities. The g/lines are specified in the criteria of the proposals
Q 7b	Yes	N/a	Yes	No answer	Depends on the donor, some are very practical and relevant, others less practical and relevant	In most instances, yes	Yes, to some extent.	Yes and no

APPENDIX B.1 RESPONSES TO QUESTIONNAIRE – NGOS

QUEST.	PCDF (Floyd Robinson)	G/PEACE (Shirley Atataqi- Coutts)	CHEVRON NIUGINI (Sarah Ekali)	IFRC (Leon Prop)	LIVE & LEARN ENVIRON. ED. Aust. (Christian Nielsen)	FSM ASSOCIATION OF NGO'S (Larry Bruton)	FCOSS (Hassan Khan)	WWF (Penina Namata)
Q 8	Lack of technical capacity, ongoing evaluation, lack of baseline data, greater involvement of communities, Timing – Project's lifeline	N/a	People not participating by not taking care of the H ₂ O supplies, not owning the project, etc.	Limited assessment data available regarding impact of disasters on rural H ₂ O & sanitation, or priority needs, all potential sites surveyed during 1 st stage of the programme	No	The initial lack of understanding of donors from industrialised nations in regards to logistics associated with implementation & completion of projects on remote central Pacific islands	Community not having sufficient knowledge on the sources of H ₂ O supply. Project contractors have no technical know-how on the water sources, how they work. Contractors blame the community	Language, size of the communities, traditional vs. scientific k/ledge, gender-women do not make decisions in the rural communities because they have too many tasks to complete within the day, loss of traditional k/ledge when the elders pass away
Q 9	Case Studies, flip charts, posters	General Comment – booklets, flipcharts	Video and Flip-charts	The SPHERE g/lines are introduced during basic training courses, using books, videos and case studies	Flipcharts that are well researched and pre-tested for relevance	We are currently working on solutions to this dilemma	Every system available, eg. Flip-charts in rural areas due to technological weaknesses, these formats need to be produced in different languages to suit the community	Flip-charts, coloured pens used usually for drawing by villagers, video, radio-broadcasting of project information on the Fijian radio stations as well as women's programme, illustrated case studies, brochures

Key

- Q 1 - Does your organisation have a 'Gender Specialist' or person assigned to address 'Gender Issues'?
- Q 2a - Does your organisation have existing guidelines for facilitating 'Community Participation'?
- Q 2b - Does your organisation have existing guidelines for facilitating 'Gender Equity' in water supply and sanitation projects? If yes, please provide title of documents, sections and/or website etc.
- Q 2c - If the answer to the above is no, what is the reason?
- Q 3a - How does your organisation implement 'Community Participation'?
- Q 3b - How does your organisation implement 'Gender Guidelines'?
- Q 4 - What impact have the guidelines had on fieldworkers and project process?
- Q 5 - How have project beneficiaries been affected by the use of the guidelines?
- Q 6 - How often are the guidelines reviewed?
- Q 7 - Who is responsible for reviewing the guidelines?
- Q 8 - What type of process is used to review the guidelines?
- Q 9 - What have been the lessons learnt from the review process?

QUEST.	WHO (ANJANA BHUSHAN)	AUSAID (YVONNE GREEN)	EU (ENRICO STRAMPELLI)	NZAID (ROGER CORNFORTH)	FRENCH EMBASSY (VIRGINIE COUSTET)	JICA (MOSESE WAQA)
Q 1	Yes	Yes	Yes	Yes	No	Yes
Q 2a	No specific/ generic institutional g/lines for facilitating Community Participation	No Community Development guidelines per se	Yes	Yes – overarching policy framework. Detailed policy likely but not yet developed, NZAID is only 1 year old.	Not really	Yes
Q 2b	WHO does not yet have g/lines for facilitating gender equity in H ₂ O and sanitation projects, does have an institutional policy on gender mainstreaming, being implemented now, gender related docs found on http://www.who.int/gender/en/	Yes	See EU Guidelines	Gender & Development Policy which applies to all projects, not only H ₂ O supply & sanitation. It is on our website http://www.nzaid.govt.nz/	Yes	Yes. JICA uses the Project Cycle Management (PCM) method as a management tool; is based on the philosophy that development should be for people in the community, owned & sustained by them, for the benefits of development to be realised, it has to be participatory. JICA- a partner that community choose to work with in terms of JICA's technical cooperation to realise community's particular development goals. Foundation for Advanced Studies in International Development (FASID) used to train its staff in PCM method
Q 2c	N/a	N/a	N/a	N/a	N/a	N/a

APPENDIX B.2 RESPONSES TO QUESTIONNAIRE - DONORS

QUEST.	WHO (ANJANA BHUSHAN)	AUSAID (YVONNE GREEN)	EU (ENRICO STRAMPELLI)	NZAID (ROGER CORNFORTH)	FRENCH EMBASSY (VIRGINIE COUSTET)	JICA (MOSESE WAQA)
Q 3a	WHO WPRO recognises importance of CP in all activities associated with H ₂ O and sanitation, activity supports its member states to adopt strategies that include the communities at all phases of project planning, design, implementation, operation and maintenance	Through various aid delivery forms, gender and Community Participation are integrated throughout aid delivery	Micro project Approach	Via terms of reference to consultants & log frames/project design documents. NZAID projects required to have participatory project planning processes & implementation.	Community involvement- the answer is clear; the more people get involved in the project from the beginning, the better. The Embassy spends less money & promotes self-sufficiency in this way. They prepare their own projects, it's approved, they implement it, the Embassy undertakes a follow-up.	As in 2b
Q 3b	Goal of WHO Gender policy – contribute to better health for both women and men through health research, policies and programmes that give due attention to gender considerations, promote equity and equality between men and women	Through various aid delivery forms, gender and community participations are integrated throughout aid delivery	There is a gender assessment in the financial proposal stage	Gender g/lines apply in same way as for CP. Participation in project planning & implementation is required to have appropriate gender integration as specified by the GAD Policy	Comes quite naturally, there are more & more women involved both at the Embassy & own projects. No positive discrimination as such, obligation not to discriminate & to give as much attention to women projects	Expansion of projects aimed at the empowerment of women along with full-scale adoption of gender mainstreaming, JICA began preparing a 'Manual on Integrating Women In Development (WID) Considerations into Development Programs'.
Q 4	Impact has not been systematically analysed/ documented	See AUSAID review, document on http://www.usaid.gov/pressroom/2008/08/080808a.htm	Variable	Depends on nature of project & success of the specific strategies employed. Generally, NZAID has been assessed by OECD Development Assistance Committee peer reviews as having a leading & successful approach to both community participation & gender	Not much till now, may change from now on	Provide a clear sense of what is required in terms of minimum requirements. Helps JICA workers to have a watchful eye on important matters that enhances the success chances of its technical cooperation. JICA's mainstreaming of gender issue activities has enhanced the gender mainstreaming process in all of JICA's areas of influence. Areas include Strategy & Policy, Studies & Research, Training, Information Management & Collaboration.

APPENDIX B.2 RESPONSES TO QUESTIONNAIRE - DONORS

QUEST.	WHO (ANJANA BHUSHAN)	AUSAID (YVONNE GREEN)	EU (ENRICO STRAMPELLI)	NZAID (ROGER CORNFORTH)	FRENCH EMBASSY (VIRGINIE COUSTET)	JICA (MOSESE WAQA)
Q 5	Effect cannot be analysed as yet – Gender policy in early stages	See http://www.usaid.gov/publications/	EU does not have enough experience in applying the guidelines. Most of their community based projects are undertaken under the micro project approach	Again project specific. NZAID approach in water & sanitation have been pre-dominantly community focused & small scale rather than large infrastructure. Project reviews have been generally favourable	Given the attention & the funds they deserve for their work, above all, community involvement in H ₂ O supply & sanitation	Provide quality service delivery to the project beneficiaries. Assists in coalescing the essential ingredients of success for each project.
Q 6	N/a	See http://www.usaid.gov/publications/	No answer	Are all under preparation or review at this time	I have no idea	Gender-mainstreaming of gender into JICA's initiatives entails three levels of involvement; policy-level, program-level & project-level. Policy-level evaluation- more than three years after programs. Program-level evaluation- conducted after 3 years. Project-level evaluation- depends on duration of the projects
Q 7	WHO headquarters in consultation with WHO's Regional/Country offices, under directions of World Health Assembly	Office of Review and Evaluation, AUSAID	Andre Liebaert, EU Head Quarters	N/a	Paris & the Ministry of Women Promotion	Policy-level evaluation- Ministry for Foreign Affairs with input from JICA & JBIC. Program-level evaluation- conducted by JICA (office of evaluation & post-project monitoring). Project-level evaluation- Conducted by JICA (operational departments & overseas departments & overseas offices in charge of evaluated projects)
Q 8	N/a since gender policy has not yet been reviewed	See http://www.usaid.gov/publications/	No answer	N/a	Ministry of Women which sets g/lines for the whole French Administration	Evaluation process- involves: Pre-implementation work in Japan, on-site study & post-implementation work in Japan

APPENDIX B.2 RESPONSES TO QUESTIONNAIRE - DONORS

QUEST.	WHO (ANJANA BHUSHAN)	AUSAID (YVONNE GREEN)	EU (ENRICO STRAMPELLI)	NZAID (ROGER CORNFORTH)	FRENCH EMBASSY (VIRGINIE COUSTET)	JICA (MOSESE WAQA)
Q 9	N/a	See document on http://www.ausaid.au/publications/	No answer	N/a	I don't know	JICA- main implementing agency for Japan's Overseas Development Assistance (ODA) for about 40 yrs. The 21 st century is most challenging because development issues are becoming more severe. Evaluation as a Management Tool- JICA refers to evaluation results when formulating its aid strategies & country programs. Evaluation as a learning tool for aid personnel- Evaluation results serve as a reference formulating & implementing similar development cooperation initiatives. Evaluation as a means of disclosing information to ensure accountability- JICA shares evaluation results with the Japanese public & internationally to demonstrate that it is fulfilling its responsibilities as an ODA implementing agency. As a whole, the overall impact of the regularised process will win support & understanding of the public, & help implement more effective & efficient cooperation.

- ❖ **NOTE:** SOPAC requested information on use of community participation guidelines from AUSAID in September, 2002. In response, Mr Jone Vakaloloma, Senior Programme Officer of the Development Cooperation Section, Australian High Commission, Suva, Fiji sent: 1) Australian Civil Society Support Program Guidelines and 2) Australian Community Assistance Scheme Fiji.

Key

- Q 1a - What does 'Community Participation' mean to you as the respondent?
- Q 1b - What does 'Community Participation' mean to your organisation?
- Q 1c - Does your organisation practice 'Community Participation'?
- Q 2a - When your organisation implements water supply and sanitation projects, which members of the community are usually involved in the 'Community Participation' process?
- Q 2b - How do you make sure everyone in the community is involved? Which groups do you focus on?
- Q 2c - Who, in your organisation, facilitates the 'Community Participation' process?
- Q 2d - What has been the outcome of employing a 'Community Participation' approach? Positives and Negatives?
- Q 2e - What do you understand by gender equity?
- Q 2f - Do you think it is important to address gender issues in water and sanitation programs? If yes, why? Any other comments on gender considerations?
- Q 3a - Does your organisation have specific guidelines/manuals to follow when implementing water and sanitation projects?
- Q 3b - If so, please provide titles or description.
- Q 3c - Is the use of these guidelines reviewed, and by whom?
- Q 3d - In which projects have the guidelines been used?
- Q 3e - What was the impact on the project of using the guidelines?
- Q 3f - How useful were the guidelines for fieldworkers?
- Q 4a - Does your organisation work with NGO's in your water and sanitation projects? Yes/No. If yes, please explain your arrangement and levels of responsibility. If no, is this something you consider would be valuable?
- Q 4b - Do the NGO personnel use any community participation guidelines?
- Q 5 - Who funds the water and sanitation projects implemented by your organisation?
- Q 6a - Do these donors have specific guidelines in place for community participation and water supply/sanitation projects? Yes/No. Please explain.
- Q 6b - Are these guidelines useful to you?
- Q 7 - What, if any, were the major information gaps identified in the implementation of your organisation's water and sanitation projects?
- Q 8 - What formats/media have you found to be most helpful for understanding and using guidelines (e.g. short booklet, illustrated case studies, flip charts, video, etc)?

APPENDIX B.3 RESPONSES TO QUESTIONNAIRE - GOVERNMENT

QUEST.	FIJI MINISTRY OF HEALTH (WAISELE DELAI)	FIJI MINISTRY OF HEALTH (TIMOTHY YOUNG)	PUBLIC WORKS DEPARTMENT FIJI (GEOFF GREEN)
Q 1a	The contribution made by the community on a particular programme in H ₂ O supply & sanitation, their involvement and contribution	Active involvement of a community in planning, discussions and implementation of a development activity	The term is a restriction. PWD does work in the urban and rural areas. For the urban areas, PWD does not follow community participation. Rural schemes- have to get involved, eg providing labour while PWD provide the design of the project/scheme.
Q 1b	Contribution by the community & their participation in a project	Involving a community in activities to develop themselves	Same as 1(a)
Q 1c	Yes	Yes	No
Q 2a	Rural community members and in villages	Depends on the type of locality- in a village, MOH approaches chief, village elders and provincial staff but in settlements, MOH involve a respected & influential person in that community	Rural schemes- Native Lands Trust Board (NLTB), villagers, Ministry of Regional Development
Q 2b	By discussing, asking them to contribute, MOH inform them of the benefits & outputs by contributing & participating in a project	MOH involve as many people as they can in discussions & planning, make sure that respected & influential people are involved	Rural Water Supply- The Ministry of Regional Development are the ones who make contact with the village. Urban- No participation
Q 2c	Those at district & implementation level, the divisional people	Normally staff at district level, program officers involved in direct dialogue with the community	Rural- Divisional Water Engineer, Urban- Engineers in charge of the projects
Q 2d	Positives- success in implementation of the project, working r/ship between MOH and the community. Negatives- Community making extra demands when projects fail	Positive- full participation from community Negative- tension & no cooperation	Positive- for rural schemes, a good response from people (this scheme has been ongoing for over 30 years). Urban – poor response
Q 2e	Sexual balance- it must involve both male and female. Projects must be for both male and f/male in a community	Giving equal opportunity to opposite sex without any discrimination	Both sexes are given the same opportunities
Q 2f	Some projects need the input of women which help to enhance progress of a project	Yes, gender issues should be addressed, they are normally affected in water and sanitation programs	Should be done automatically
Q 3a	Yes	Yes- the WHO guidelines & existing Ministry Policy	Yes
Q 3b	The Public Health Act, Chap. 3, The WHO G/lines for Drinking Water Quality	WHO Water Quality Guidelines	PWD Rural Water Supply policy document, for PWD's urban schemes, every project has a Master Plan, too many documents to therefore list
Q 3c	Yes, now being done by MOH and WHO	The World Health Organisation review the Guideline every year	Every 10 years by consultants and PWD
Q 3d	Water supply, school sanitation and village sanitation projects	Water Supply projects	All projects
Q 3e	Improving water quality, allowing the community to follow procedures, helping the community in the m/tenance of H ₂ O supply systems	To determine the quality of water & its safeness for consumption	If PWD did not follow guidelines, this would be detrimental to the projects
Q 3f	Helps them to gauge the quality of H ₂ O, they use a guide to improve H ₂ O quality and helps set a standard	Very useful	Fieldworkers do not see the guidelines, only the Master Plans, thus, cannot say whether g/lines are useful.
Q 4a	Yes. Community provide labour, proposal is made through the Regional Development Ministry, funding is allocated to District Officers	Yes- for implementation of projects & securing of funding	Work with the local councils (Fiji), some NGO's contact PWD and not the other way round
Q 4b	They have their g/lines when donating funds for H ₂ O and sanitation projects	I assume they do, have not seen any format	Not quite sure
Q 5	WHO, JICA and NGO's	No constant or regular donor, we have had assistance from Rural Development, Red Cross, WHO, FCOSS, and Multi-Ethnic Affairs	Government, aid grants, for example, AUSAID and Japanese aid
Q 6a	They have specific g/lines based on the project	Yes, they all require a project plan with quotations of materials	Yes
Q 6b	Yes	Yes	Not really
Q 7	Information on H ₂ O quality, sources of water, which standard to use, tests	Attitudes of some community members towards development, wrong interpretation of information & acceptance of message presented to community	Lack of resources, especially, engineering resources, thus, PWD relies on consultants to do the work.
Q 8	Video, case studies, flip charts, workshops/seminars, literature papers	Health promotion & education sessions using video, flip charts & printed material	Brochures, short booklets. PWD do not really produce publication material

Key

- Q 1 - Does your organisation have a 'Gender Specialist' or person assigned to address 'Gender Issues'?
- Q 2a - Does your organisation have existing guidelines for facilitating 'Community Participation'?
- Q 2b - Does your organisation have existing guidelines for facilitating 'Gender Equity' in water supply and sanitation projects? If yes, please provide title of documents, sections and/or website etc.
- Q 2c - If the answer to the above is no, what is the reason?
- Q 3a - How does your organisation implement 'Community Participation'?
- Q 3b - How does your organisation implement 'Gender Guidelines'?
- Q 4 - What impact have the guidelines had on fieldworkers and project process?
- Q 5 - How have project beneficiaries been affected by the use of the guidelines?
- Q 6 - How often are the guidelines reviewed?
- Q 7 - Who is responsible for reviewing the guidelines?
- Q 8 - What type of process is used to review the guidelines?
- Q 9 - What have been the lessons learnt from the review process?

QUEST.	UNICEF PACIFIC (DR KYAW-MYINT)	UNDP SAMOA (MS MUTAAGA ENOSA-FAALOGO)
Q 1	Yes	Yes
Q 2a	Not on a global level but for specific programmes at the country level	No specific g/lines are applied- UNDP projects utilise the existing govt networks or NGO networks; these basically follow a highly participatory & consultative process aimed at involving community level people in decision-making
Q 2b	The water programmes supported by UNICEF has always been with the main objective of decreasing w/load of women having to carry H ₂ O for the family. See http://www.unicef.org/	Yes. H/ever, there are no specific projects focussing on gender equity in H ₂ O supply/sanitation. UNDP has a policy stance with respect to gender equity on a variety of issues. "Making gender equality a reality is a core commitment of UNDP. As a crosscutting issue, gender must be addressed in everything the organization does. Why? Because equality between women and men is just, fair and right. It is a worthy goal in and of itself, one that lies at the heart of human development and human rights. And because gender inequality is an obstacle to progress, a roadblock on the path of human development. When development is not "engendered" it is "endangered". http://www.undp.org/gender/index.htm
Q 2c	N/a	With regards to no projects in H ₂ O/sanitation, UNDP has not been requested by any of our 4 country govts to assist in this area; because other donors have significant programmes on H ₂ O and sanitation.
Q 3a	UNICEF does not implement programmes by itself but supporting either governments/NGO's in doing community mobilisation/participation	Work at the community level is facilitated through the appropriate govt networks. Work with women & youth is channelled through the Ministries of women & or youth. Ownership by national stakeholders is a priority
Q 3b	Together with other UN organisations, UNICEF is responsible for advocating member states of the UN family to ratify CEDAW	It has been agreed between each govt and UNDP to mainstream GID principles & g/lines into all UNDP projects funded by core project funds. Some gender specific projects are channelled through the 'gender in development' UN theme grp. At this level, collaborative efforts are developed between the theme grp & appropriate ministries, NGO's
Q 4	Gender analysis is done in project development, also within UNICEF, their target for employment of women in decision making is 40%	No project specifically for gender dev in the past, although there will be a specific gender project in Tokelau where these g/lines will be referred to
Q 5	No answer	No specific impact
Q 6	Not on a regular basis	Have not been reviewed at the field level as yet
Q 7	The Representative, the Planning, Monitoring and Evaluation Section and Gender focal point	Not applicable
Q 8	Participatory at Mid-term review, annual reviews, involving partners	No applicable
Q 9	Still need to improve their process of review, there is a need for capacity building of UNICEF staff to be more gender sensitive in their programming	No comment

APPENDIX C LIST OF ACRONYMS USED IN THIS REPORT

ACT	–	Assisting Communities Together	RAP	–	Regional Action Plan
ADB	–	Asian Development Bank	RDO	–	Rural Development Officer
ADCP	–	Acoustic Doppler Current Profiler	RWSS	–	Rural Water Supply Section
ANU	–	Australian National University	SANDEC	–	Sanitation in Developing Countries
AusAID	–	Australian Agency for International Development	SIDA	–	Swedish International Development Cooperation Agency
CBO	–	Community-Based Organisations	SIV	–	Small Island Voices
CDIF	–	Community Development Initiative Foundation	SOPAC	–	South Pacific Applied Geoscience Commission
CDO	–	Community Development Officer	SPHPC	–	School of Public Health and Primary Care
CIDA	–	Canadian International Development Agency	SPACHEE	–	South Pacific Action Committee for Human Ecology and Environment
CISO	–	Cook Islands Statistics Office	SPHPC	–	School of Public Health and Primary Care [of FSchM]
CPD	–	Central Planning Department	SPREP	–	South Pacific Regional Environment Programme
CT	–	Composting Toilet	SWOT	–	Strengths, Weaknesses, Opportunities and Threats
CUSO	–	Canadian Universities Services Overseas	TANGO	–	Tongan Association of Non-Government Organisations
DFID	–	Department for International Development (UK)	ToR	–	Terms of Reference
DGMWR	–	Department of Geology, Mines and Water Resources (Vanuatu)	TWB	–	Tonga Water Board
EU	–	European Union	UNAIDS	–	Joint United Nations Programme on HIV/AIDS
FCOSS	–	Fiji Council of Social Services	UNDP	–	United Nations Development Programme
FSchM	–	Fiji School of Medicine	UNEP	–	United Nations Environment Programme
GWA	–	Gender and Water Alliance	UNESCO	–	United Nations Educational Scientific and Cultural Organisation
ICDP	–	Integrated Conservation And Development Training	UNIFEM	–	United Nations Development Fund for Women
IETC	–	International Environmental Technology Centre	US	–	United States
IFRC	–	International Federation of Red Cross or Red Crescent	USP	–	University of the South Pacific
IHP	–	International Hydrological Programme (of UNESCO)	VDT	–	Village Development Trust
IWP	–	International Water Programme	VASS	–	Voluntary Agency Support Scheme
JICA	–	Japan International Co-operation Agency	VCR	–	Video Cassette Recorder
METI	–	Matuaileoo Environment Trust Inc	VIP	–	Ventilated Improved Pit Latrine
MPAs	–	Marine Protected Areas	WASH	–	Water Sanitation Hygiene (WSSCC)
MSP	–	Marine Studies Programme	WEDC	–	Water Engineering and Development Centre
NCDS	–	National Centre for Development Studies	WHO	–	World Health Organisation
NCHP	–	National Centre for Health Promotion	WRU	–	Water Resources Unit (SOPAC Secretariat)
NGO	–	Non-Governmental Organisations	WS	–	Water Sector
NIP	–	National Indicative Programme	WSP	–	Water and Sanitation Programme
NZAID	–	New Zealand Agency for International Development (formerly known as NZODA)	WSS	–	Water Supply & Sanitation
PACFAW	–	Pacific Foundation for the Advancement of Women	WSSCC	–	Water Supply & Sanitation Collaborative Council
PAME	–	Participatory Appraisal Monitoring and Evaluation	WWD	–	World Water Day
PCDF	–	Partners in Community Development Fiji	WWF	–	World Wide Fund for Nature
PCU	–	Project Co-ordination Unit	WWF-SPP	–	World Wide Fund for Nature – South Pacific Programme
PHAST	–	Participatory Hygiene and Sanitation Transformation	3 rd WWF	–	Third World Water Forum
PIANGO	–	Pacific Islands Association of NGOs			
PIC	–	Pacific Island Country (s)			
PIP	–	Project Implementation Plans			
PNG	–	Papua New Guinea			
PLA	–	Participatory Learning and Action			
PRWSO	–	Pacific Rural Water Supply Officer			
PWD	–	Public Works Dept			