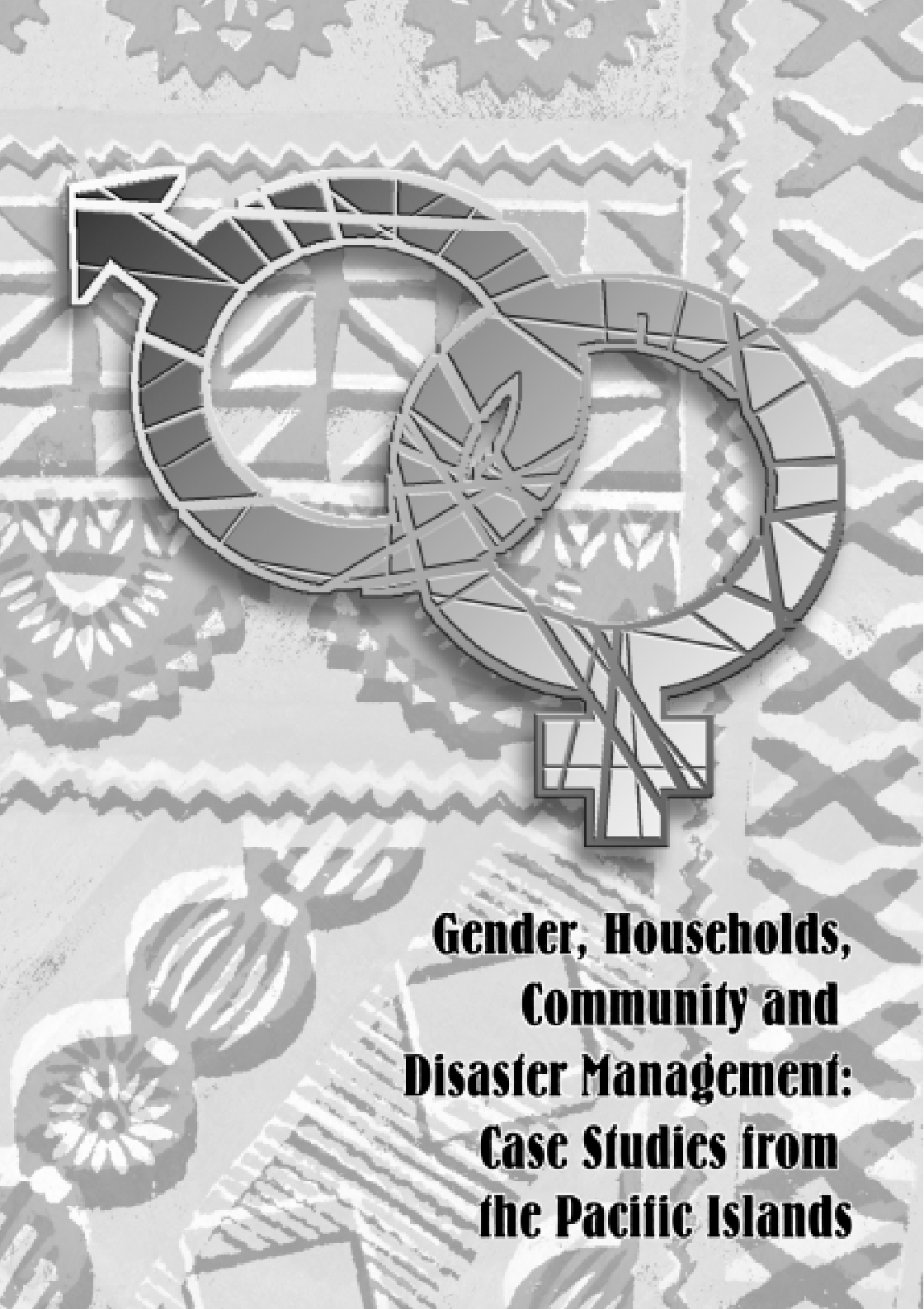

Gender, Households, Community and Disaster Management: Case Studies from the Pacific Islands

Note

SOUTH PACIFIC DISASTER REDUCTION PROGRAM (SPDRP) REPORT

This report (publication) was written/compiled within the tenure of the UNDHA (now UNOCHA)/UNDP South Pacific Disaster Reduction Programme (SPDRP) which officially closed in 2001. The regional disaster management mantle has been placed on the South Pacific Applied Geoscience Commission (SOPAC), specifically it's newly-established Disaster Management Unit.

SOPAC's Disaster Management & Publications and Library units were given the task of bringing closure on a number SPDRP reports of which this is one.

While SOPAC takes responsibility for ensuring that all elements that make a bonafide report are present in this SPDRP publication, the opinions expressed and the quality of reporting are the sole responsibility of the author(s)/consultants(s) within the framework of their terms of reference with the SPDRP.

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1. Introduction

Objective

The purpose of this study was to improve understanding of the relative status, roles and responsibilities of women and men in Pacific Island households and communities, with the objective of designing more gender- inclusive strategies and programmes, and enabling women to be mainstreamed into disaster management programmes at local, national and regional levels.

Methodology

Community consultations: A four-country study (Samoa, Solomon Islands, Fiji and Kiribati) of selected communities examined the roles of men and women in household maintenance and production, and community management. Discussions focussed on women's and men's roles (youth, adults and elders) in *disaster prevention*, as this, along with post-disaster cleanup, is accepted as a household and community responsibility. Disaster warning, relief and reconstruction were seen as activities to be led by local and national governments.

Literature review: A review was undertaken of the relevant literature on gender and development in the Pacific islands, and gender and disaster management internationally.

Overview of findings

The division of labour between men and women varies quite markedly within and between Pacific Island countries. Further, cultural ideas about the appropriate roles of men and women do not determine what women and men actually did on a day-to-day basis. In the productive sphere, fishing is definitively a male activity in Kiribati and Samoa, but some women go fishing. Agriculture is a male role in Samoa, but many women engage in horticulture/market gardening and help their husbands grow traditional food crops. A common division of labour is for men to produce and women to market. In most parts of Solomon

Islands growing food crops is mainly women's work, but some men also work hard on food crops with their wives, doing far more than their traditional role of preparing the ground for planting and leaving the rest to women.

Export crops (e.g. cocoa, coffee, copra) are said to be "men's crops", but throughout the Pacific women provide labour during harvesting and other peak seasons, especially in Fiji and Solomon Islands. In Samoa, whole families will go out together to collect coconuts and make copra, even though this is thought of as a task for men and boys.

Housework is defined as 'women's work' in all four countries, but in all countries men and boys do some "housework", although usually not as much as women; certain types of cooking, for example, are traditional male tasks. Washing clothes, dishes and pots is seen as women's – or girls – work, but boys and men often help. Getting essential jobs done and feeding the household are often more important than sticking to ideal sex roles.

The most significant fact about gendered roles revealed by this study is that a line is drawn in all countries between "private versus public" or "informal versus formal" authority. In all countries, with few exceptions, women are assigned the domestic sphere, making sure that everyone's physical needs are met and that children and old people are cared for, that there is enough water, fuel, food, bedding, mats, essential household goods and clothing, and that the house, household belongings and compound are clean.

Men make decisions in the public sphere (i.e. about relations between the family and other families, the extended family, the village, the district, the province, and the government). In Samoa, women have a greater extent of public authority than in other countries, although this is confined to decision making within the defined 'women's sphere' – water, health, hygiene, beautification and hospitality. However the increasing role of the state in providing water and sanitation services, and the growing centralisation of health services, means that women's responsibilities in these areas are decreasing; water supply is gradually

becoming incorporated into national infrastructure under the water authority, and these issues have shifted to the national council of pulenu'u (village mayors) monthly meetings with government agencies. In Fiji, Solomon Islands, and Kiribati, women's associations don't have much local authority, but some have considerable influence. They are typically community based, linked to churches; often with affiliations to various NGOs.

The male monopoly of decision making outside the home is a significant fact to be recognised for disaster management. For planning purposes, the fact could either be accepted or challenged. If it is accepted, disaster prevention will be less effective because it will not address practical measures for household preparation. If it is challenged, it will be necessary to convince governments and some NGOs that by including women in disaster-management planning and decision making, better results will be achieved.

The study found that adult men and women and elders, and youth of both sexes – but particularly young men – were well informed about what should be done when a disaster warning is received.

Communications in all countries are good and most households own radios. During the months from November to February, people were particularly conscious of the risks of storms and tropical cyclones. However the conclusions of this study are that much of this knowledge is theoretical rather than practical. Many of these practical issues that need to be addressed are related to other development needs, environmental protection, water supply, safer housing and food security.

Recommendations for action by disaster management personnel are provided in sections 5 and 6.

2. Gender: Its relevance to management

Throughout the 1990s there has been increasing recognition that gender is an important variable in disaster management and reduction planning. As the *Bibliography on Gender and Disaster Management* in Appendix A suggests, there has been a growth in research on gender in the context of disaster prevention, mitigation, preparedness, response, rehabilitation and reconstruction around the world. This research suggest that all aspects of the disaster management cycle can be more effectively implemented if gender is recognised and "mainstreamed" into all aspects of programming.

What is "gender"?

Gender and gender relations refer to the socially (rather than biologically) determined characteristics of men's and women's positions in society. Thus, a gender analysis examines both women and men and the social, economic and cultural forces which shape their relative positions, and the relations between them.[1]

"Gender" refers to the cultural meanings we attach to sex. Our sex is what we are born with, it cannot change, and everyone is either male or female. Sex refers primarily to the *physiological* differences between males and females, such as reproductive capacity, body shape and so on. There is growing evidence that while men and women do not differ in mental capacities, there are certain differences in cognition and perception between men and women that may have a physiological origin. But most differences between men and women are socially conditioned from childhood. Different societies attach different meanings to sex; deciding what is "masculine" and what is "feminine", what roles are appropriate for boys and girls, men and women, and how power should be distributed between them. That is what is meant by *gender*. In brief, sex is determined by nature while gender is largely a

[1] Byrne, B & S. Baden, 1995: 4

product of socially learned, cultural behaviour. In most Pacific societies, if an outsider should ask why men and women do different work and have unequal social status, the reply will be "it is our custom" or "it is our tradition".

Of course some sex roles are more or less universal, because they are influenced by biology; for example in almost all human societies the primary care-givers to babies and very young children are female, because females give birth to and feed infants, and are closely tied to their dependent babies for several years.

Accordingly, females are more likely to have primary responsibilities for activities in the home, close to their children. Similarly, activities that have to be done far away from the home, or which involve high risks, or which require considerable upper-body strength, are almost always done by males. These basic behaviour patterns are found in most human societies, particularly in rural communities, because they are efficient and support human survival. Yet many gender roles – what is "women's work" and what is "men's work", or what behaviour is appropriate for males and females – vary considerably between cultures, and within and between different countries.

Development planning often involved direct or indirect efforts to change people's behaviour, particularly their economic behaviour. One of the early criticisms of development planning in the 1960s was that it tended to be based on assumptions about the roles of men and women in *western industrial* societies, as they were in the 1950s and 60s. In those days the western model of gender roles assumed that men's role was to *produce* – by going to work, earning money, and supporting a family; while women's role was to *consume* – by staying at home, doing the shopping with the money provided by men, and taking care of the physical and emotional needs of her family. This was assumed to be an ideal, natural and universal division of labour between the sexes.

Accordingly, when western-trained agricultural scientists were sent out as advisors to developing countries, they assumed that production – farming and fishing, processing and marketing for example – was men's work, while women's role was 'housework' or 'domestic work'. But of

course 'domestic work' in rurally based societies is quite different from 'domestic work' in urban industrial societies. Rural domestic work, like urban domestic work, includes cleaning, washing, cooking and taking care of people, but various other productive jobs as well, such as planting, weeding and harvesting food crops, processing materials to make household goods and goods for exchange, raising livestock, gathering or trapping seafood, collecting plants, fruits and nuts from the forest, collecting fuel and water, and many other jobs. Men and boys also do 'domestic work' if we define domestic work as all the tasks needed to maintain the people who live in a household and their possessions, although they may do different tasks from the women such as building houses and outbuildings, and repairing them, making tools and equipment. Also, other tasks which are part of a farming or fishing economy, which are mainly done away from the house itself. Domestic work is productive, part of a system of production in which all members of the household take part.

The effects of making the wrong assumptions about what men and women do in rural economic systems were first described in Africa[2], where in most parts of the sub-continent women were the major producers of food, and marketers of primary and processed-food products. Commercial agricultural development programmes were directed towards men, which had the effect of pushing women's agricultural production into the background. It came to be seen as part of an unimportant, and thus unmeasured 'backward', 'domestic' or 'informal' sector of the economy, even though it was vital to the food security and basic economic welfare of households and communities[3]. As men were encouraged to direct most of their labour towards the cultivation of commercial export "cash" crops or into wage labour, the

[2] For example in studies by Ester Boserup (1965) and Barbara Rogers (1975)
[3] See for example Marilyn Waring 199? *Counting for Nothing*

burden on women to produce food became greater, as the work was no longer shared with men as much as it had been. Soon it became recognised that this pattern was occurring not only in Africa, but in most rural communities in the non-industrial societies of South America, Asia and the Pacific.

In the 1970s many development agencies recognised that many development programmes were increasing existing inequalities, or creating *new* inequalities between women and men. Questions were raised about what the effects of male-female inequality are on human and economic development. So research was carried out, and the results showed that throughout most of the world, women worked longer hours, were poorer, and less well educated, and had fewer legal rights and less voice in society than men. Was this a problem for development? The research showed that it was. Evidence accumulated to show that when equality of opportunity between men and women increased, especially in education, so did economic growth and human development (by indicators such as more-stable population growth rates, and increased life expectancy and child survival rates).

Women in Development

In the 1970s most countries which had been formerly under colonial rule had women's programmes which had been introduced in the 1940s and 50s. These programmes were intended to improve social welfare and increase standards of living. They were directed to women because women's roles were seen primarily as wives and mothers (it is interesting that men's roles were not assumed to be primarily husbands and fathers). These programmes did not try to improve the existing knowledge and skills of women, or to reach all the members of the household, but instead promoted new foods and methods of cooking (which was thought at the time, incorrectly, to improve nutrition) and new methods of sewing clothing. Again, the assumption was that women's traditional knowledge and skills were of no value.

In 1975, an International Year for Women was declared by the United Nations, followed by an International Decade for Women 1975-1985. A whole range of activities called "Women in Development" or "WID" for short arose during this time. One major group of activities aimed to move away from the "cooking-sewing" kind of women's programme to "income-generating" women's programmes. It was hoped that if women had more money of their own, they would achieve higher social status, and would spend the income they made on things like school fees and home improvement.

Another set of programmes aimed to give women more say in government and public policy. Women's units were set up in government departments; sometimes women's departments were created, with ministerial representation in parliament. The idea was that these women's units or departments would work together with women's NGOs such as national councils of women, church groups, and special-interest women's groups. By working together, it was hoped, they would have an influence on political processes and government policy. In the Pacific, because there were so many small countries to help, donors encouraged the establishment of regional women's programmes, for example the South Pacific Community's Pacific Women's Bureau, the regional YWCA programme, and others.

From "Women in Development" to "Gender in Development"

The WID approach ... attempted to understand women's perceived exclusion from 'development' by focusing mainly on the situation of women and by promoting women's development projects. WID recognises women's productive and reproductive roles, but tends to focus mainly on the former, seeing greater participation in the economy as a key to women's unequal status. There is also a tendency to see women as an undifferentiated category, separate from men, rather than focusing on their inter-relationship with men[4].

In the late 1980s, international agencies reviewed the progress made by the various "Women in Development" programmes. The conclusions were that although quite a lot of progress had been made, the approach of "women in development" needed rethinking. Several key problems were identified. Because women have lower social status than men in most countries, separate women's activities were also regarded of low status given low priority, and under-funded by governments.

Many development projects had special sub-projects just for women, and it was not thought necessary to include women, or women's concerns, in the main parts of the projects. All around the world income-generating programmes for women were established. Some of these were highly successful; one of the most famous is the Grameen Bank model of Bangladesh, where poor women form groups and take it in turns to borrow money for small business activities.

In the Pacific region, most separate income-generating projects for women were unsuccessful in the long run, being based on group-owned small businesses such as vegetable gardens, handicrafts, piggeries, or chicken farms. Even when such ventures were profitable, and where ways were found to share the proceeds of the work fairly among the groups, they took a lot of time to organise. In most rural households the work of men and women is complementary and inter-connected. It was found that setting up women's projects separately from the activities shared with men often just gave women more work to do.

[4] Byrne, B & S. Baden, 1995: 4).

This turned the thinking of development agencies and women's organisations towards the subject of *gender*, rather than *women*. The problem to be solved was not one of *women* but *the relative position of men and women,* in other words "gender relations".

A new method, termed "gender analysis", was developed to look at the relations between men and women on a case-by-case basis. For example if a new development activity was planned, a gender analysis would be made to look at what men and women, boys and girls were currently doing. In its simplest form, a gender analysis answers the following questions, preferably by observing people's actual behaviour:

- Who do which tasks, men and boys or women and girls?
- How much time does each of these tasks consume?
- Who has access to these resources associated with these tasks?
- Who controls the resources – for example land, tools and money, or has the right to allocate them?

A gender analysis allows information to be built up about the different roles of women and men, girls and boys, in relation to a particular activity, and also the relations of access and control – of power – between the sexes. This information could then be used to ensure not only that women's and men's roles were respected and acknowledged, but also to plan a strategy as to how women's *equity* in that activity could be improved. Thus a new approach was born, which was termed "Gender in development". Its major objective was not to separate women and men in development activities, but to *mainstream* women in development:

- To recognise women's practical needs and their roles in everyday life.
- To ensure that development activities were planned *strategically*, to ensure that women had equity in them, or were *empowered* by them along with men.
- To enable women to take part in all aspects of development along with men.
- To ensure that development activities did not make women's work harder, or decrease their social status.

Terms	Key Concepts
Sex	The biological differences between males and females
Gender	The cultural, socialised, learned differences between males and females; what is classified as masculine and feminine.
Women in Development	An approach which aimed to enable women to benefit from development activities, by setting up special programmes for women. Women in Development programmes emphasised income-generating activities, for women, and a voice for women in government policy.
Gender relations	The conventions as to how men and women should interact, the roles they should play in production, the home and the community, and the relative power and autonomy allowed to men and women in a society.
Gender Analysis	A tool and method to analyse gender relations.
Gender in Development	An approach which advocates mainstreaming women in all development activities. It advocates the use of gender analysis so that development projects contain strategic elements for gender equity and the empowerment of women if this is needed.
Mainstreamining	The inclusion of women, consistent with their interests, in all aspects of development.
Gender Equity	Equality of access by men and women, boys and girls, to economic, educational and other opportunities created by development activities.
Empowerment	Measures within development projects and programmes which increase gender equity, and by so doing, improved the social and economic status of women as well as men.
Practical needs	Women's practical needs are immediate, current, and arise from the existing situation
Stategic needs	Strategic needs are long term, related to the relative position of women and men, and focus on equalising gender-based disparities.

The Gender issue in disaster management

The majority of emergency responses ignore the special needs of women, miss opportunities to strengthen their position (and sometimes weaken it), ignore women's own resources and characteristics, and disregard the long-term social rehabilitation needs of the communities they serve.[5]

There are now a great many reports and publications which describe research demonstrating that at all stages of the disaster management cycle, the response, roles and needs of women are different from those of men. Many indicate women that are more vulnerable in disasters than men (see Box 1). So far much of information on gender and disasters in low-income countries comes from South Asia, where gender segregation is commonly practised, and where social indicators suggest that women's status is exceptionally low. For example, an analysis of the 1991 cyclone in Bangladesh showed that the largest number of casualties were among women. Their traditional clothing was a liability when trying to climb to roof tops or into trees, or to swim to safety; that due to their segregation, many women did not receive warnings, and that women suffered great cultural humiliation in having to take refuge in crowded shelters with men, and by having to join relief queues. Further, they had little control over relief supplies and rehabilitation funds, since men made the decisions on how resources would be used[6] .

[5] Eurostep, 1995
[6] D'Cunha, 1997

BOX 1

Findings of a literature review of gender and disaster research, 1996[7]

Women, especially poor women, are more exposed to risk. Women's vulnerability, especially in lower-income countries, is largely attributable to gender inequalities, care-giving roles and responsibilities, a lack of mobility, and limited access to resources. Women are more likely than men to perceive a disaster threat as risky or serious, especially if it would affect their families. This heightened perception of risk may be the result of relative lack of power and control. Women may be more likely to prepare their families and be involved in local preparedness groups. Women are more likely also to receive, believe and personalise disaster warnings than men, and to respond with protective actions, particularly evacuation. Women's differential perception, preparedness and warning responses may be seen as an aspect of their traditional domestic role, which includes responsibility for the well being of their family and immediate communities.

Once the event occurs, women in low-income countries have higher mortality and morbidity rates than men. This difference is attributed to traditional roles, child-care responsibilities, and gender discrimination. In all countries, location and child care are critical risk factors during the impact stage. (Women are more likely to express emotional distress and psychological trauma, while men may suffer more alcohol abuse, thereby conforming to socialised gender norms). In the response stage, helping behaviour often corresponds with traditional gender roles, with women engaging in largely unrecognised work in the home while men volunteer in more public arenas. In addition, women hold fewer leadership positions in formal response organisations and are excluded from community decision making. Women are more likely to seek assistance for their families during recovery, while men may view public funds as a stigma, or decide not to use relief funds for recovery purposes. Finally, in the reconstruction stage, female-headed businesses are less likely to receive loans, many women have trouble finding replacement employment, and poor women are likely to find obstacles to restoring their lives. At all stages, the hardship is more profound for women in poverty and for those in lower-income countries.

[7] Fothergill, 1996

A study commissioned by the European Commission in 1995 argues that:

Current relief practice to a large extent reflects a Women in Development (WID) rather than a Gender and Development (GAD) approach, focusing on women's specific needs and their role as mothers. There remains a widespread conception that women and children are the primary victims of emergencies, and yet there is limited analysis of the role of social relations, specifically gender relations, in determining who suffers in emergencies and what options are available to affected individuals and communities.[8]

Gender relations vary within countries, according to ethnic and rural and urban differences, age and socio-economic status. There is also considerable variation between countries arising from culture, religion, and levels of development, particularly in relation to education and health services and the extent to which civil rights are upheld in law. Accordingly, global generalisations about gender and disaster management are less useful than country-specific analyses.

Another issue identified in studies of gender and disaster is that disaster management around the world tends to be a male-dominated field. There are many possible reasons why this is so, illustrating how gender stereotypes work. For example, disaster management has been seen as a technical area; technical work is thought of as "masculine" in many cultures. Disaster management involves dealing with risk and danger, and again this is widely seen as a masculine concern. Disaster management is also often seen as a heroic activity, in which bravery and bold initiative are required; qualities more often seen as "masculine" than "feminine". Disaster management also involves taking managerial responsibility, however, men are often reluctant to share formal management roles with women. Although women are likely to be as good at managing things as men, it is a common convention for women to manage things behind the scenes, not in public where their roles as managers are visible.

Gender equity is needed in disaster-management agencies and committees because while disasters affect both men and women, the roles of men and women differ in most societies. Therefore if only men work as disaster managers, the roles and needs of women affected by disasters are likely to be overlooked. Accordingly, getting a gender perspective into disaster management must begin by involving more women in disaster-management programmes.

[8] Byrne B, & S. Baden. 1995

3. Gender, households and communities in the Pacific Islands

Disaster Risk

The Pacific islands are generally at high risk from disasters, and because of the very small size of some countries, the impact of disasters is proportionately extremely high. The islands are of four main geological types; three types rest on old volcanic substructures – small, high volcanic islands, raised coral islands, and atolls. The fourth type are larger continental islands of basaltic rock sub-structure. The smaller types of islands have fragile environments, particularly atolls, which are narrow, reef-formed islets, usually surrounding a central lagoon, above extinct volcanic basements.

The larger islands of Melanesia (e.g. Papua New Guinea, Solomon Islands, Vanuatu) were populated by movements out of Asia between 40 000 and 10 000 years ago. The smaller islands of Micronesia (e.g. Kiribati, Federated States of Micronesia, and Palau) and Polynesia (e.g. Samoa, Tonga, Cook Islands) in the central, north and south Pacific were settled by maritime peoples of Southeast Asia beginning about 3000 years ago.

Although cultures differ greatly and furthermore the Pacific is one of the most culturally diverse areas in the world – over 1000 languages are spoken in the Pacific Islands – the pre-contact traditional economies were very similar. Based on root crops (taro, yam, sweet potato, and later, introduced cassava) and tree crops (banana, coconut, breadfruit, canarium almonds, pele – *hibiscus esculentum* – and others), agricultural practices were based on shifting cultivation of interplanted crops selected according to rainfall patterns, combined, less commonly, with irrigation for taro. These agricultural practices were supplemented with fishing, particularly on small islands, and /or hunting and gathering. On atolls with thin soils, fishing was of greatest importance as few crops could be grown.

Table 1. Estimated Vulnerability of Pacific Island Countries to Specific Natural Hazards.

Country	Population	Land area (km^2)	Cyclone	Coastal flood	River flood	Drought	Earthquake	Landslide	Tsunami	Volcanic eruption
Cook Islands	19 500	240	M	M	L	H	L	L	M	–
FSM	114 800	701	M	H	L	H	L	L	H	–
Fiji	752 700	18 272	H	H	H	M	M	H	H	–
Kiribati	76 000	775	L	H	–	H	L	L	H	–
RMI	50 000	181	M	H	–	H	L	L	M	–
Niue	2300	258	M	L	–	M	L	L	M	–
Palau	21 600	494	M	M	–	M	L	L	H	–
PNG	4056 000	462 243	L	H	H	M	H	H	H	H
Solomon Islands	337 000	28 370	H	H	H	L	H	H	H	H
Tokelau	1600	12	M	H	–	H	L	L	H	–
Tonga	97 400	720	H	H	M	M	H	L	H	H
Tuvalu	9100	24	L	H	–	M	L	L	H	–
Vanuatu	156 00	12 200	H	H	H	L	H	H	H	H
Samoa	163 000	2935	M	H	H	L	M	H	H	L

Source: INDR: Natural Disaster Reduction in Pacific Island Countries:

Key: H=High risk, M=Medium risk, L=Low risk.

Pacific cultures all incorporated beliefs and practices that permitted an ecological balance between human beings and their often difficult environments. But since the beginning of the colonial era in the mid to late 19th century, when groups of islands came under the jurisdiction of various European powers, there have been major changes; for example social transformation was encouraged by the almost universal adoption of the Christian faith. Economic transformation has been largely based on the exploitation of natural resources and forest clearance for cash-crop plantation. Decolonisation took place between 1960 and 1980 and the region comprises 14 independent states, and 7 territories associated with France or the USA. These states and territories are mainly archipelagos, comprising many islands. Since independence, urbanisation has increased rapidly in most island states, with an average of around 30 per cent of the population living in urban areas throughout the region.

Because they are mainly small, and scattered across thousands of miles of the Pacific Ocean, the islands are vulnerable to tropical cyclones, storm surges, coastal floods, volcanic eruptions, tsunamis and droughts. When a natural disaster strikes a Pacific islands country, decades of investment in development activities can be lost in a few days. Many countries have found development to be "one step forward, two steps back" after recurrent cyclones that destroy crops, infrastructure and homes.

The preconditions for damage from natural disasters have been increased in some countries by man-made actions such as large-scale forest clearance, drainage of mangrove swamps and removal of trees, and damage to barrier reefs.

Social Structure, Control of Resources and Gender

Despite the modernising influences of the past century, Pacific Island countries are all kin-based societies in which extended family ties and obligations are of great economic and social importance. Most land in Pacific island states is under customary tenure. This usually means that extended family groups, clans and lineages collectively own portions of land, and in some cases reefs, forests and, areas of river as well.

Individual members of a land-owning kin group are given rights to use, but not personally own, the land and other resources owned by the group. Each person must maintain their connections and fulfil customary obligations to their kin group in order to be recognised as members and fellow landowners. Shared ownership rights in land, and to marine and forest resources, are inherited according to culturally prescribed rules of descent, *which has a major bearing on the relative status of women and men*.

The most common system of rules in Melanesian and most Micronesian countries is that the individual traces membership to a kin group through only one parent (matrilineal or patrilineal descent).

When membership of a kin group is inherited through the mother (matrilineal descent), this does not necessarily mean that women have high status. Most women marry a man from another group (it is rarely permitted to marry inside your own kin group) and marry when they are quite young. After marriage a woman usually goes to live with her husband and his family, on the land he is using. In fact matrilineal descent does not usually affect women much; it is a system in which a man inherits membership of a kin group and a share in property rights and social status through his uncle (mother's brother) instead of through his father, which is the case in the patrilineal-descent system). Matrilineal systems only give women power when the husband comes to live on the wife's land and in her village. Then as a co-owner of property living with her own blood relatives, the woman has more rights and often higher social status as well. This system is rare however, although it is practised in some parts of Micronesia.

In many Melanesian cultures, particularly in patrilineal social systems, when a woman is given in marriage her husband and his relatives have to 'pay' for her; nowadays money is given along with traditional goods. In the old days valuable goods and food were given. The gift indicated that the husband and his people now had control over the woman, her services and any children she bore. If a woman wanted to leave her husband, her father and brothers would have to be willing to pay back the gifts they had received for her. In some places the churches have abolished this custom, but it is still commonly practised today in areas of PNG, Solomon Islands and Vanuatu.

In most Polynesian and some Micronesian and Melanesian societies, people – males and females alike – potentially belong to any kin group that they can trace kinship to by blood. In this kinship system (termed 'cognatic descent an individual may claim the right to use land and other resources, to live in the household and village, and to share in the social status of his or her father, mother, grandparents and great grandparents and so on. What actually happens in practice is that people usually have a strong attachment to the kin group with whom they grew up. The people you live with are usually the ones to whom you feel most attached, but you also build up a set of acknowledged rights because you have lived and worked and shared with those people. Such kinship systems are very flexible and offer each individual many choices, they allow people to move around between different family connections, because according to custom, the individual should be accepted into any group to which he or she has a blood connection, as long as he or she shows willingness to help and support that group. Women in social systems based on "cognatic" descent tend to have higher status because they have more choices, because they have equal rights with their brothers to family assets and resources, including a say in family decisions if they are in the older age groups. In these systems when a couple marry, both sides exchange gifts; the gifts are not just given by the husband's side.

Regardless of what kind of a kinship system people have grown up with, these social systems remain an important part of life, even when people move to town. For example, a person with a job and a house in town will be expected to help his or her relatives, including offering accommodation to close relatives if they come to town for education, health care, work or just visiting. Those who have more money and goods will be expected to share with their relatives who have less, and to give more to family ceremonies. As well, everyone will also be expected to give to their church, and in rural villages, to provide services to the community when they are needed, as well. The same expectations extend to emigrants; those who earn money overseas are expected to send money home when it is needed to help the family, church and community. Nowadays, earning money is a new source of prestige, because those with money can build up their social standing by helping other people and their community.

Gender Equity: some indicators

Social indicators suggest that levels of development and cultural values are the most important variables affecting the status of women. Table 2 presents selected social indicators for the four Pacific Island countries for which case studies of gender roles in disaster preparation have been made.

Despite the differences in life expectancy between the four countries, men generally have lower life expectancy. This is a demographic pattern that is true of all countries except those where female status is exceptionally low.

Table 2: Selected Gender Equity Indicators for Fiji, Kiribati, Samoa and Solomon Islands

INDICATORS Latest available statistics	**Fiji Is**	**Kiribati**	**Samoa**	**Solomon Is**
GDP per capita (AS)	2.716	600	1.305	947
Total fertility rate	3.2	3.8	4.8	5.8
Life Expectancy (y)				
Male	61.00	57.70	62.00	59.90
Female	65.20	62.80	66.00	61.40
Adult Literacy (%)				
Male	90	94	98	27
Female	83	92	98	17
Education (female enrolment per 100 males)				
Primary	95	97	92	77
Secondary	100	109	96	60
University and Higher Education	49	80	97	n.k
Economically active in cash economy (% of labour force)				
Male	78	38	30	36
Female	69	14	75	13
Economically active in cash agriculture (% of labour force)				
Male	50	64	73	77
Female	24	79	25	92

Fiji ranks highest in GDP terms and although traditional values attribute low status to both Fijian and Indo-Fijian women, this has been is offset by accessible education for all children and equal participation by girls at secondary levels. Gender imbalance is most pronounced in female participation in higher education, with only half as many women participating in comparison to men. Women's role in agriculture and fisheries is undoubtedly underestimated in this data.

Samoa has lower GDP but life expectancy for both men and women is slightly higher, as are literacy rates from men and women. The lower ratio of females to males at primary level is more likely to be due to a high masculinity ratio in the age cohort than unwillingness to educate girls. This picture is clarified by the approximately equal rates of participation among Samoan girls and women at secondary and tertiary levels of the education system. Samoan women have fairly high status and proportionately larger numbers of women are involved in the cash economy, however they have less equity are in formal decision-making roles in village councils, parliament and senior levels of the civil service.

Kiribati and Solomon islands both rank among the poorer countries of the world. Of the four countries, social indicators suggest that Solomon Island women have the lowest status, reflected by low literacy rates particularly among women, high fertility rates, and a large male/female disparity in secondary education and in the cash-earning labour force. In comparison, Kiribati, though the poorest country in GDP terms has the geography of a small islands on which populations are concentrated, so primary and junior secondary schools are accessible to most children. This is reflected in the comparatively high coverage and approximate gender parity in literacy and education. However employment and economic indicators in Kiribati indicate considerable gender disparity, with women concentrated in rural subsistence production.

4. Women, Men and Disaster Preparedness in Four Pacific Island Nations

Samoa

Samoa's location make her very exposed to natural disasters. This was most chillingly demonstrated in the highly destructive cyclones Ofa (Jan 1990) and Val (December 1991). A post-Val survey reported severe devastation of critical lowland sites, tree crops and forests, with a profound impact on natural ecosystems and biological diversity. Loss of production in the months following the cyclone was estimated to be 2% of GDP for the whole year, while the total value of damage to houses, infrastructure and crops has been placed at around SAT600 million. The full impact of the cyclones on the natural environment and the total economic cost may never be known, nor the extent of the psychological shock families suffered as they watched the cyclones destroy assets they had worked for years to acquire.[9]

Samoa comprises two main islands, Upolu and Savai'i, along with a number of smaller islands of which two, Manono and Apolima, are populated. The total land area is 280 673 hectares of which about one third comprises steep mountains and lava fields. The latest population estimate (1995) is 164 673. Samoans are a culturally homogenous people speaking one language and holding to a shared set of cultural values and practices. Samoa contains approximately 224 villages, each with its own local government. A few of these are new urban settlements, but the great majority are traditional villages (*nu'u*), being territories containing a settlement, agricultural holdings, forest and inshore areas of sea.

Each village has a tripartite political structure, the *fono* (council of *matai*, or titled heads of families), the *komiti* (women's association) and the *aumaga* (association of untitled men). Each of these three groups has an ascribed role; the *fono* is responsible for village government and land, representing their households in the domain beyond the household and making collective decisions concerning the community and its by-laws.

[9]United Nations 1998

The *komiti* includes three female status groups, the *aualuma* (daughters of the village), the wives of *matai*, and the wives of untitled men. The wives of the most senior ranking *matai* usually take the leadership roles. The *komiti* is responsible for village health, cleanliness, beautification and standards of living. The *aumaga,* known as the "the strength of the village", is responsible for performing the heavy work of the village. Although each village has variations in local customs and by-laws, most are strong, firmly governed semi-autonomous entities. Each fono elects a *pulenu'u* (mayor) from among its numbers who meet monthly with members of parliament and government officials, to link villages to national affairs. In most Samoan villages the *matai* sit in council approximately once each week, normally on Mondays, to deliberate village management. Many *matai* also serve as church deacons and play active roles in church management.

Gender is modified by the rank of each family, determined by the rank of title held by its *matai*, and by seniority. Little differentiation is made between boys and girls in the household until they are about ten or eleven years old. Children are expected to obey their elders, including older children, pick up leaves and rubbish from around the household compound, to run errands and help whenever needed around the house, including looking after younger children. At about age 11 or 12 boys and girls are assigned separate roles; ideally boys do outdoor work including heavy cooking (boiling large pots of food over an open fire, making the *umu* (earth oven) for Sunday lunch and special meals, and helping with the work of men. Girls help women do indoor work: sweeping, washing, helping with cooking done inside the house.

The indoor/outdoor distinction is an ideal; families with a shortage of boys will expect girls to do outdoor work if there is no other young person to do it. The indoor/outdoor distinction continues for young married couples, who usually live with the parents of the husband or the wife or, less commonly, with other older relatives. Married women often help their husbands at busy times in agriculture, and collect sea foods from the lagoon or reef with the help of children.

Young males become "men" (*tamaloa*) when they marry, as distinct from "boys" (*tama*), and young unmarried women (*teine*) become "women" (*fafine*) when they marry. Mature men are expected, in a formal sense, to organise the primary spheres of production, lead their families, and organise its resources. In theory *matai* control land, unless they reside

with the family of the wife, in which case the control belongs to the wife's *matai*. In practice the man, titled or not, who farms the land and holds the usufructory rights over it, controls it.

Older women do less 'housework" but organise the work of other people in the house, make handicrafts and play an active role in the work of the village *komiti*. Men and women in paid employment do less around the house than those who are not in formal employment, but share their wages with the household, buying food and other needs, and giving money to their *matai* to contribute in the family name for the church and for ceremonies. According to the 1991 census 16.5% of households were headed by women; 52% of these were widowed and 60% were aged over 55. Each household is expected to support the ceremonial and public obligations of its *matai* (public obligations such as the school committee, village hospitality and so on). Each family also contributes to the support of the minister of the church to which they belong, and the upkeep of the church and the minister's house.

Fagali'i village

The first of two villages selected for this study is Fagalii, a peri-urban village of the town of Apia, about ten minutes drive south-east from the town centre. It has the appearance of a suburb but is organised on Samoan village principles as the village is a traditional settlement of some antiquity. It comprises over 100 households, mainly located on the landward side of the road which follows the coast.

Village congregations own four churches, the Congregational Christian Church of Samoa (CCCS), Assemblies of God (AOG), Pentecostal and Seventh Day Adventists (SDA), and their associated ministers' houses and meeting halls.

The village owns a primary school (the education system in Samoa requires villages to build, equip and maintain their own primary schools, and for districts to do the same with junior secondary schools; teachers are appointed and paid by government). The district Junior Secondary School at Vaimauga is not very far away but village families use most of the town schools as well. A freshwater spring which is used to collect water when the government-supplied piped water system fails.

Sanitation is via septic tanks and, in a few cases, pit latrines. The village has a sealed government road through it with heavy traffic flows. Government-supplied electricity, to which all but about 10 household have access, is provided on a user pays basis. Health services are provided at the national hospital at Moto'otua in town. The nearest district health facility is some distance away at Lufilufi. Most households had access to TV and radio.

About 65 per cent of households, according to the *matai*, have minimally sufficient land for subsistence and small-scale commercial agricultural activities and of those, about 50% sell produce at the local market; 35% have insufficient land. About 90% of households have at least one person in wage or salary employment. The village faces a lagoon protected by a reef. Fishing is said to be banned in the village lagoon area for conservation and resource-management purposes, and no village households engage in deep-water commercial or subsistence fishing for tuna and other pelagic species. The village people consulted said the lagoon is still rich in *figota* (small seafood items) collected for subsistence purposes. Village well-being and services were said to be generally good, but the majority of those in their middle years and over had diabetes. There were no health problems, so far as they were aware, from water and sanitation.

The first interview conducted in Fagalii was with seven *matai* and two untitled men, who sat with the women and listened to the discussion but did not take part. Of the *matai*, three were elderly men, and four were in early middle age.

Matai perceptions of disaster preparedness

The *matai* were very mindful of the cyclones (Ofa and Val) of 1990-91, and recognised wind and sea-intrusion damage as a major risk. They had also heard of but not experienced tsunamis, and had knowledge of earthquake risk, of which their experience had been minor. Water shortage was a regular intermittent problem for the village. Disasters, they said, brought famine, lack of water, destruction of property and food resources and, potentially, diseases. They said they had been inadequately warned and prepared for the cyclones of 1990-91. For Ofa they had received three days warning, and for Val about one week,

however the severity of Val had been underestimated. Their feelings at the time were of helplessness and fear that the end of the world had come.

Since the cyclones, appropriate preparation measures had been learned from various sources including TV and radio messages. They understood these as: to heed radio and TV warnings, to strengthen the roofs and shield the windows of houses, to clear trees from around the houses and ensure that sufficient food, water and kerosene were stored. Building regulations were the responsibility of government rather than the village. In the event of tsunami warning the village households were to immediately move inland to the higher areas behind the villages. Preparation after receiving a disaster warning was for every able-bodied person in the household, men and women to work together.

If a warning was received it was not a village matter to prepare, but it was up to each head of each household to take the necessary measures. There was no specific village plan of action for the community as a whole. It was also up to each household to make sure their neighbours in need were given assistance. Where the village acted as a unit was in dealing with government; for example, requesting post-disaster assistance was the role of the pulenu'u, who also had to see that relief was distributed equitably on the basis of household size. (It was felt that after Ofa/Val this had been done equitably). Each family had also sought post-disaster help from their own relatives overseas (food, goods and money and materials to rebuild houses,) and virtually all households had received such help after Ofa/Val. Lessons learned from Ofa/Val, they said, had been to give thanks to God for their deliverance and to build stronger houses in the future.

Women's Committee perceptions of disaster preparedness

Fagali'i has two *komiti tumama,* one which is predominantly made up of CCCS members, and comprises membership from half the households in the village. A smaller *komiti* is affiliated to the SDA church. A large proportion of village women are not involved in the *komiti* because of other commitments or lack of interest. Two members of the large *komiti* are affiliated the NGO *Komiti* Tumama, which claims to represent most of the *komiti* in Samoa. *Komiti* Tumama was seen as an effective organisation, however when asked which NGO (i.e. Red Cross,

Women in Business, NCW, Ministry of Women's affairs outreach programme, or Komiti Tumama) should work with the *Fagali'i komiti* on disaster preparedness (if such an initiative was to be pursued), most said the National Council of Women would be the most appropriate body. Later the view was expressed that any forthcoming training should come directly from UNDP.

Representatives of the three status groups within a *komiti* were present, the *faletua ma tausi*: 3 *faletua* (wives of chiefs) and four *tausi* (wives of orators). Fourteen *tama'ita'i* (daughters of the village families) and three wives of untitled men. Twelve women were present in total, a number having dual status in the *komiti* (eg both wives and daughters of the village). Their ages were estimated to range from late 30s to late 50s.

Their opinion was that the role of women was essentially to care for the inner domain of the village, the household, with tasks mainly related to the preparation of food, care of children and elders, and making various grades of mat for ceremonial and household use. The ideal gender division of labour is that women run households (the private domain) and men run matters outside the household (the public domain). Ideally they said, women are secondary producers (cooking, sewing, making handicrafts), and men primary producers of food through agriculture and fishing. The public role of women is through the *komiti* and the church women's groups, and involved maintaining standards of village cleanliness and beautification as set by the village council, and organising maternal and child clinics led by a visiting nurse (who also does household visits to non-*komiti* members in need of their services).

The discussion revealed that in fact life did not always closely follow this model. Many women in Fagali'i work outside the home for wages, and women in about ten households played an active role in farming (mainly horticulture). Many were regular or occasional market vendors of fresh produce, selling vegetables they had grown themselves, or crops grown by their husbands. Women and children also gathered seafood regularly, and were the main providers of fresh seafood from local sources in the diet.

Disaster preparedness activities were the same as those mentioned by *matai*, however women laid emphasis on their primary role in ensuring family security, well being, and protective activities. They mentioned

things that they should do, such as helping to secure the houses to reduce damage, to prepare and store food and water and kerosene to cut the leaves of banana trees, and help clear trees from around the house. After a flood or high wind, their role in post-disaster activity was to join with every other able-bodied person to clean up their compounds and homes, help harvest what was left in their plantations, follow instructions from *matai* and *pulenu'u*, seek help from government and families overseas and pray to God. When asked, they said knowledge of first aid was important, but only a few had any knowledge of it. Again, when asked, the consensus of the *komiti* members interviewed was that training in disaster preparedness was the most important need for the future. Specific procedures for storing food and water, first aid and other knowledge was considered very desirable. Both women and men should receive training they thought with a focus on their own spheres of authority and responsibility.

Young men's and women's perceptions of disaster preparedness

Young people have no formal decision-making-powers in the village but carry out the orders of their parents and elders. The last interview was with two young men and two young women, all recent school-leavers. One young man had competed 12 years of school and the other had completed Form 6 (a national examination year). Both were working for their families as planters. The two girls had completed Form 6 and Year 10 respectively; the former worked as a salesperson while the other looked after her family in the home. Their ages were estimated to be between 16 and 20. All were members of the CCCS youth group.

Male Youth: Disaster preparedness knowledge

During the cyclone season and before, it was essential for everyone in the family to listen attentively to disaster warnings and advice for preparation. The male youths demonstrated good knowledge of the issues and requirements of disaster reduction. The young men said that the following tasks should mainly be done by themselves:

- Secure roof and cover windows
- Collect, carry and store water
- Collect, carry and store firewood

- Harvest and store bananas and other crops if ready for harvesting.
- Secure chickens and pigs safely
- Prepare kerosene lamps for use
- Cut trees and coconuts around the house
- Work carefully and calmly to avoid panic; help family to prepare well
- Build a shelter/ place of refuge (cyclone and tsunami) in case it is needed. In the case of tsunami, ensure that food, water, necessities life are carried inland)

Their perception was that it was the girls' role to help older women to prepare/store food and if necessary, help to take family inland and help to set up camp. Everyone should help, but especially young men, to do post-disaster cleanup, and elders should phone relatives overseas for help. Their knowledge of what should be done was learned from experience, but also media messages and possibilty, in the case of one boy, at school.

Female Youth: Disaster preparedness knowledge

The young women were less well informed about disaster preparation activities than the young men interviewed. Their perception of their role, they said, was to

- ensure batteries sufficient for radio
- listen to warning notices
- ensure cooking utensils are safely stored
- assist all work inside the home especially well-being of children and elderly people

They perceived the roles of the young men as being the preparation of firewood and to secure the house against damage.

Savaia village

The second Samoan village chosen for this study was Savaia village, which is in Lefaga district on the south coast of Upolu, beside Lefaga bay. Most of the population of the Lefaga villages, including Savaia, now live about a mile inland from the old village along the main road. The section of the village on the coast comprises a number of households, the village primary school, one of the two congregational churches

(another Congregational Christian Church of Samoa (CCCS) church is located inland, as well as a Pentecostal church), the district health centre, and the Lefaga Junior High School and the village has one general retail store. Ninety per cent of the village belong to the CCCS church, and the village has only one telephone.

The village relies heavily on urban services (heath, education, and police) which have become more accessible since the inland road between Apia and Lefaga was extended and upgraded. Most children attend the village primary school, and then families seek secondary schooling for their children at a variety of schools depending on whether the child meets admission criteria and/or whether the family can afford the fees.

Government services to the village include water supply to which every household has a connection, and an electricity supply to which all but about 10 per cent of houses are connected. The village says the water supply, for which government is responsible, is erratic, with breakdowns. Their reserve water source, a spring, was damaged in the cyclones of 1990-91.

The village *fono* enforces local by-laws including a curfew for evening prayers, a ban on drinking alcohol within the village settlement area, general law and order management, obedience to custom, etc.

The village has a single women's committee with four co-presidents, the wives of senior *matai*, and no other office bearers. Each church also has a women's group. All households are represented in the *komiti* but women who are lax in attendance have to pay a higher fee for use of the district health centre. There is also a district committee to which each village *komiti* nominates its representatives. Their main concern as an organisation is that they have no women's meeting house for the district.

The village has no fisheries/marine resources management plan. The main worry of the council of *matai* is severe coastal erosion. They would like a sea wall, but cannot afford to build one.

The village has a disaster management committee, established at the instigation of the National Disaster Management Committee, one of only two established so far. The composition is two *matai* (office bearers)

and two members each from the *aualuma* (daughters of the village) the wives of *matai* and the young men. The committee had never had a meeting and was expecting direction from the national committee, which they envisaged as providing material assistance such as nails, kerosene, food and so on.

As with most districts, Lefaga has a signpost which indicates the directions north, south, east and west. These were installed by the Samoa Red Cross so that people would learn the orientation of their houses and villages and better understand disaster warnings when these were issued.

Matai perceptions of disaster management

The ten *matai* interviewed described the "formal" division of the work of men, women and children in the household, and the public roles of the *matai*, *komiti* and youth in the village. In general women do all tasks concerned with domestic and reproductive work assisted by children and youth, as well as weaving ceremonial and household items. Men do all tasks of production – fishing and planting, with older men directing the work of younger men. They said that in practice everyone does the work that is needed to be done and roles are exchanged as necessary, depending on household composition and the skills and capacity of members of each family.

The most gender-specialised tasks are fishing using boats and diving gear (men) and textile handicrafts (women). All households depend on agriculture and fishing for food and income. About 40 per cent of households in Savaia have a regular cash income of some kind, while about 60 per cent rely mainly on subsistence production and selling produce (seafood, plantation crops and vegetables) in Apia. About 30 per cent receive help from time to time from family members overseas, but many have no emigrant relatives and some of those who do get no help from them.

The potential threats of disaster that they perceived were cyclones, floods, tsunamis, and earthquakes. Only minor earthquakes and flood had been experienced, but cyclones Ofa and Val had destroyed much of the village (all houses were damaged and most were destroyed) and its crops and coconut plantations, was well recognised/remembered.

They recalled a cyclone in 1966 which had caused damage to crops and houses. Most of the houses (*fale*) at that time were of traditional construction. These round or oval open-sided houses were built with a ring of posts and four central posts, embedded in a deep stone foundation, the posts supported a large dome-shaped roof. Roofs were of a wooden lattice frame construction secured with coconut fibre cords, supporting a *tolo* (a type of cane leaf) thatch, made of leaves folded across a coconut rib and secured by sewing the double layer of leaves with coconut leaf rib. These were attached to the roof frame with coconut fibre string. The sides of the houses had blinds made from small woven coconut mats attached to cords forming a venetian-blind-like arrangement. The blinds could be raised or lowered to provide shade, ventilation, and protection from rain.

These houses, according to the Director of the Samoa Red Cross, were adapted to withstand damage from heavy winds, and a generation ago there was extensive traditional knowledge of how to prepare for storm and cyclones, by securing the roofs with a rope and layers of palm leaves. Further, two generations ago, it was standard practice to store an emergency food supply by filling banana-leaf-lined pits with peeled and sliced breadfruit. When sealed and covered, this could be stored for years. It yielded a fermented paste which could be baked into cakes. This technique of food preservation is now virtually extinct and traditional house-building methods are also being rapidly forgotten by younger people.

As in villages throughout Samoa, traditional *fale* were replaced by most households during the 1970s and 1980s by an adapted style of house made of permanent materials. These, after the initial expense of building them, are much easier to maintain. They are typically rectangular buildings with cement floors and wooden or cement posts supporting a corrugated iron roof. Some houses have louvre glass windows at the front and sides, set in timber-framed walls, others are open sided. There is usually a large unpartitioned room at the front and several smaller enclosed rooms at the back. Outside, at the back of the house there are other buildings, usually built from a mixture of traditional and modern materials, for cooking, and for working or resting in during the heat of the day. In Savaia most households have built small Samoan fale of semi-traditional construction (nails are used instead of cords) beside the sea, as cool places for resting in.

The *matai* said that Ofa came as a shock because most houses were, by that time, of permanent materials, and knowledge of how to prepare was less well established. In most cases the roofs of the houses were very poorly secured. What they had learned from Ofa, which was the worst cyclone anyone had experienced to that time, was how poorly prepared they were. Houses lost roofs, and there was flooding from sea intrusion. They learned many lessons from Ofa on how to prepare – by storing water, securing roofs, trimming trees and removing objects that could be blown or washed about causing damage. Val struck less than a year later, and was even more destructive than Ofa, but the *matai* said people were better prepared.

When a disaster warning is received, they said, it is the duty of each *matai* to look after his own family for preparedness activities. There is no community strategy for disaster management. For post-disaster relief, the village mayor (*pulenu'u*) represents the village to receive relief supplied. The opinion was expressed by several *matai* that after Ofa and Val that the relief arrangements were inefficient. Supplies were distributed on the basis of out-of-date census data. Undistributed food and supplies sat in the town and were not given out. During the post-disaster period and reconstruction, all able-bodied people took part in the clean up and rehabilitation of the village and its economy. Gender was irrelevant, they said, people did what had to be done. During the reconstruction period a local carpenter provided advice to the men of the district on how to build stronger structures and secure roofs.

Women's Committee perceptions of disaster management

Forty or so women listened, but did not participate in the discussion with the *matai*, summarised above. Following village protocol, the *matai* had to be consulted first.

Following these discussion the women were interviewed as a group; only a few leaders did the talking. They were asked about their experiences during the cyclones, their impact and what the roles of men and women were in everyday life and in the event of a disaster.

They had nothing to add to the description given by the *matai* about the roles of women and men, the impact of the cyclones, and what they

had learned. However they said that women had special responsibility for the care of the family and household and do most of the work. Their knowledge of managing household disaster preparation was drawn from what they suffered from Ofa and had put into practice to prepare for Val.

They emphasised the need for detailed practical information from special experts that would enable them to ensure that all women are trained in disaster preparedness. They mentioned the Red Cross as the most suitable agency to provide training.

Young men's and women's perceptions of disaster management

Only one young woman attended the session with 30 village youth, but she took an active, at times leading, part in discussions. The youth were asked to answer three questions, as follows with their answers.

(i) What is a disaster?

- Savaia village is vulnerable to four types of disaster. Cyclone, tidal wave caused by an earthquake under the sea, floods from sea intrusion and from the river (the latter exacerbated by deforestation), and earthquake.

(ii) How do you prepare for it?

- Listen to warnings; recognise danger when winds of speeds of 73 mph or more are predicted
- Begin preparation as soon as first warning received, act as soon as warning comes, don't wait until the last minute
- Pray to God for help
- Remind the village youth of their duties
- Remain calm and confident

(iii) What should young women and men do to prepare

For Cyclone

- All able-bodied young people should assist to prepare
- Get ropes, coconut leaves, tarpaulin
- Secure permanent material houses by strengthening the roof

- Secure Samoan houses by covering thatch with coconut leaves and tying the building with ropes
- Cut down or trim trees near houses and electricity wires
- Prepare batteries for torch and radio
- Buy kerosene for lamps and cooking
- Buy storable foods: rice & tinned goods
- Make a big umu before cyclone to provide Samoan food for several days.
- Prepare water by filling up a cooler
- Ensure children are safe and kept under supervision
- Collect an adequate supply of firewood.
- Mainly girls and women should look after cleanliness, boil water, look for water for the toilets, prepare children's clothing and prepare to provide first aid.

For tsunami

- Move inland to high ground
- Turn off water and electricity supply
- Girls have special responsibility to take care of small children

For Flood

- Move households effects away from areas near rivers to high ground
- Turn off water and electricity
- Heed public warnings
- Keep children away from dirty water and ensure children are supervised at all times
- Dig drains around houses (young men and youth)
- Boil water
- Select a clean place to prepare food
- Protect forests and plant trees

For Earthquake

- Take shelter under table, desk or large bed or in a strong doorway
- If outside, stand clear of any object which could fall over, especially electricity poles, wires.
- After the earthquake listen carefully to warnings as tsunamis may follow earthquakes.

Summary of Gender Roles in Samoa

Economic Roles

The analysis on page 41 generalises about gender roles. It is important to recognise that in Samoa rank and seniority override ideals about gender roles. For consistency with other countries the categories of "male and female, adult, youth and elder" have been used. In Samoa the important categories are *matai* and non-*matai*. *Matai* categories include women *matai* and women in the context of the village women's committee, in which leadership roles are taken by wives and sisters of senior *matai* in the village. In the following chart the category *elder* refers to older, senior *matai*. "Adult" in the female context refers to married women.

Disaster Management

The chart on page 42 chart reflects what women and men said the local arrangements would be, if prior arrangements were in place, which did not seem to be the case. People were more certain as to who would have responsibility at the household level. At the community level the arrangements were more hypothetical.

Discussion

In both villages young men and women saw themselves as playing the major roles in practical disaster-reduction activities.

Boys in urban Fagali'i said their role as the "strength of the village" was still their self-identification. They also thought that the tradition that young women should do light clean work was part of the custom of Samoa, and that the role of male youth was to protect their sisters, according to old Samoan values concerning brother-sister relationship and knew the saying "the girl is inner corner of her brother's eye". Youth were well informed, a tribute to the work of the Red Cross public

Activities, Access and Control	FEMALE			MALE		
	Adult	Youth	Elder	Adult	Youth	Elder
Crops						
Land preparation				xxx	xxx	x
Planting	x	x		xxx	xxx	x
Weeding/watering/ spraying /fertilising	x	x		xxx	xxx	x
Harvesting	xx	x		xxx	xxx	x
Carrying from plantation	xx	x		xx	xxx	x
Marketing	xxx	x	xx	xx	xx	x
Chooses crop				xxx	xx	
Selects site				xx	xx	xxx
Controls crop income	xx			xxx	x	xxx
Chooses to give away and to whom	xx		xxx	xxx		xxx
Fishing	**Adult**	**Youth**	**Elder**	**Adult**	**Youth**	**Elder**
Inshore fishing with hook & line				xx	xx	x
Inshore spear fishing				xx	xxx	
Inshore reef/shallows gathering	xxx	xx			x	
Fishing from canoe or motorised fishing boat				xxx	xxx	x
Marketing fresh fish	xxx	x	x	xx	xx	x
Marketing cooked fish	xxx	x	x	x	xx	
Owns boat/cane				xxx		xxx
Uses boat/canoe				xxx		xx
Owns fishing gear				xxx		xxx
Uses fishing gear				xxx		
Controls catch income	xxx		x	xxx		xxx
Divides catch, chooses to give away and to whom			xx	xx		xxx
Domestic	**Adult**	**Youth**	**Elder**	**Adult**	**Youth**	**Elder**
Cooking, washing, cleaning, infant care	xxx	xxx	xx			
Traditional cooking (umu, saka)		x		xx	xxx	
Collect & carry fuel	x	x		x	xxx	
Collect & carry water	x	x		x	xxx	
House-building, repair				xxx	xxx	xx
Thatch, handicrafts, mats, blinds,	xxx	xx	xxx			
Clean, weed compound		xxx			xxx	
Feed chicken, pigs					xxx	
Community Management	**Adult**	**Youth**	**Elder**	**Adult**	**Youth**	**Elder**
Public order				xx		xxx
Church				xx		xxx
Public health	xx	x	xxx			
Water supply	xxx	x	xxx			xxx
Public works (sea wall, road, etc.)				xx	xx	xxx
School				xx		xxx

Key: XXX: main role/responsibility XX: subsidiary role X: occasional or seasonal role

	FEMALE			MALE		
	Adult	Youth	Elder	Adult	Youth	Elder
Risk perception and awareness	xxx	xxx	xxx	xxx	xxx	xxx
Knowledge on type, magnitude and impact of previous disasters	xxx	xxx	xxx	xxx	xxx	xxx
Food and emergency supply storage	xxx	xx	xxx	xx	xx	x
Store water	xxx	xx			xx	
Trimming trees				xx	xxx	x
Identification of emergency routes				xxx		xxx
Identification/construction of emergency shelter				xxx	xxx	xx
Provisions for shelter	xxx	xx	xxx		xx	
Clean up compound (objects, etc.)	xx	xx		xx	xxx	xx
Strengthen threatened structures				xxx	xxx	xx
Develop warning systems at community level			xxx			xxx
Reception of disaster warning	xx	xx	xx	xxx	xx	xxx
Secure family members	xxx	xx	x	xxx	xx	x
Assist people in need	xxx	xxx	x	xxx	xxx	x
Secure/protect family belongings	xxx	xxx	x		xxx	x
Secure/protect house (tie roof, shutters, etc.)	x	x	x	xxx	xxx	xx
Secure emergency food, water, etc.	xxx	xx	x	xx	xxx	x
Authorise/initiate evacuation				xx		xxx
Harvesting/protecting/securing crops				xxx	xxx	x
Tracking of warnings/storms	xxx	xx	xx	xxx	xxx	xxx
Food preparation	xxx	xx	x		xxx	
Clean-up disaster	xxx	xx	x	xxx	xxx	x
First assessment of damage and needs				xxx		xxx
Decision making			xx	xxx		xxx
Supportive roles		xx	xx			
Management of emergency shelters			xxx			xxx
First aid	xxx	x	xxx			
Asking government for relief				xx		xxx
Identification of most needy						
Distribution/allocation of emergency relief at village and household level	xx		xx	xx		xxx
Asking for government recovery/reconstruction assistance	xx		xx	xx		xxx
Decision on recovery needs			x	xx		xxx
Identification of action			xx			xxx
Implementation of action	xxx	xx	x	xxx	xxx	x
Site selection			x			xxx
Decision on building type and size	x		x	xxx		xxx
Repairs & maintenance				xxx	xxx	x
Management of water sources	xxx		xxx	xxx	xxx	x
Labour for constructing, repairing water supply, village roads, village seawall				xxx	xxx	x

education, discussions in schools, and media messages. But they knew more about what should be done than *how* it should be done.

In Savaia the ideal division of labour was mentioned. The separation of spheres outlined below is partly based on ancient values, but has been greatly influenced by Christian doctrines since the mid 19th century.

Feminine	**Masculine**
indoor work	outdoor work
light work	heavy work
private	public

However people said that from their experiences during Ofa and Val, everyone did what they could, according to their physical capacity and initiative. In a crisis people were concerned not about sticking to cultural ideals about gender and work, but about getting the necessary tasks done.

Men saw themselves as the organisers and providers, who are responsible for linkages to the government. In Fagalii the *matai* joked about the visit, asking what they would get out of it, but made no specific requests. In Savaia the *matai* talked about their need for aid through government to fund a sea wall, and showed less interest in community-organised activities or training on disaster preparedness

In both villages women said they would like to have more training on disaster management and first aid.

For example, common responses were "store tinned food, batteries, fuel", but nobody had clear answers as to what they would do if there was no money to buy these things, or if the store did not have enough stock for everyone to buy. They knew they must store water, but had learned from Ofa and Val that filling pots and buckets is not enough to outlast a severe cyclone.

Solomon Islands

Background

The Solomon Islands is an archipelago of many islands of all geological types. It is divided into seven provinces, corresponding to the larger islands or major groups of islands in the archipelago. The population is estimated (1996) at 384 057 of which approximately 52% are male and 48% female. Solomon Islands is an ethnically diverse country. The majority are Melanesians, speaking hundred of different languages and with different social systems. Polynesian minorities live on smaller outer islands, including Rennell, Bellona, Sikiana, Anuta, Tikopia, and Ontong Java. A small minority of Micronesian Gilbertese (i-Kiribati) were resettled in several provinces during the period of British Administration. Population growth is very high on the world scale, at 3.5 with a total fertility rate of 6.07.

80% of the women live in rural areas and of these, most adult women are farmers and fishers along with men. Enrolment figures are among the lowest in the Pacific and rates are lower for girls than for boys, the gap widening at secondary and tertiary levels. Literacy rates for women are also very low. This partly reflects the lower status of women, in the sense that women are valued for the essential domestic and food production services they provide, but have difficulty in achieving equity with men in the modern sectors of the economy, or in leadership roles. For this reason many parents see the higher education of boys as a better investment. One woman interviewed said sadly that educated Solomon women in the civil service are "flower pots", that is, they are token employees who are given limited authority and few opportunities for promotion.

At the time of this study people were anxious and concerned about the actions of extremists who wished to evict all non-Guadalcanal people from Honiara settlements, and from villages in which they had settled. This had been accompanied by some acts of violence, and the burning of settler homes. The Red Cross and the National Disaster Management Officer and his deputy were busy arranging temporary shelter for people who had been affected by this crisis.

Lord Howe Settlement, Honiara

The first village selected for the study is an urban settlement located on a small area of swampy government land located on and beside the beach, next to the mouth of the Mataniko river in the capital town, Honiara. It is crowded and densely populated, grown from a few families in the 1970s to about 600 people. It is a highly-vulnerable location and is periodically flooded during storms. It has suffered major damage during cyclones on several occasions. There are several other similar locations around Honiara occupied by settlers belonging to minority ethnic groups, such as Gilbertese, and people from Rennel and Bellona islands.

The people are mainly Polynesians (ethnically and linguistically similar to Samoans) from Lord Howe Islands (Ontong Java), a large atoll north of the large island of Malaita. Most adults in the settlement were born on the atoll. Some members of the community have intermarried with Malaitans and (presumably) Guadalcanal people and others. They are all Anglican except for three households who have joined minority churches. About a third of the households have a wage earner. The people in the settlement use town schools and health facilities. It was observed than many children aged between 5 and 8 years were not at school. No information could be obtained on social organisation as no male leaders were present. It is remote and communications are poor.

The residents are all technically squatters without security of tenure, and have asked government many times over the years if they could be resettled on land which is safer and where they would have more security of tenure. They live in Honiara because their atoll has limited economic opportunities, and no resources other than coconuts, atoll taro and fish. The Ontong Java emigrants in Honiara are an important resource to their families on the island because they provide accommodation for their families when they visit Honiara, and they regularly send goods and money home.

The houses are jumbled together and mainly constructed of mixed permanent and bush materials (bamboo, fibre-board or tin walls, or a mixture of these materials), mainly galvanised iron roofs, some partially thatched, wooden floors and wooden or cement foundation posts, mainly palm-thatched kitchens. Most have posts 1.0-metre high. Most kitchens are at ground level and contain stone ovens and fireplaces. The

village has water taps / shower pipes with most households having one tap, but water pressure is low. Because of the location, pit latrines cannot be dug, and the people cannot afford to install septic tanks and toilets, particularly given their insecurity of tenure. They use the sea for sanitation purposes and the river is used for washing and bathing. Their fuel supply is mainly driftwood. Most men are fishermen, and fish for food and money. Women earn income by selling cooked food. Some are wage earners, and a very few have "white collar" occupations.

The meeting from which the following information was obtained was attended by 23 women and 10 men from the settlement, who were interviewed in separate men's and women's groups. People were asked to discuss their experiences of disaster and to consider disaster management both in the Honiara settlement and on their home atoll.

Men's Perception of Disaster Management

The men were mainly from Lord Howe (Ontong Java) atoll, with the exception of one from Sikaiana, another Polynesian atoll. The older men said the atoll was vulnerable to periodic storms bringing high winds and sea surges. The most recent experience of a major disaster on the atoll had been a cyclone in 1967 in which all houses, except that of the chief, were destroyed or badly damaged. In 1952 a tidal wave damaged their houses and destroyed their crops.

On the atoll, people had a number of traditional survival procedures to cope with disasters. Traditional houses were built with strong mangrove wood frames and thatch, and could be reinforced with coconut fibre ropes coconut logs and palm fronds. If they were knocked down they could be reassembled, although building materials are a scarce resource on the atoll. Traditional knowledge was used to forecast storm risk, although the island can be contacted by radio telephone to transmit warnings from the meteorological service.

Disaster preparedness activities for men on the atoll included the following major tasks:

- Check every house to see where repairs are needed
- Use coconut trunks to tied down houses
- Tie canoes down to prevent them from being washed away
- Help women to harvest, carry, cut, store firewood
- Collect and store *kemehamoa* (the sugar-rich sap of the coconut flower) from coconut palms for drinks, syrup and sugar
- Collect and store drinking coconuts
- Catch enough fish, so that women would dry the surplus catch and have it stored as an emergency food

Boys help women and men. Their jobs to help women are to assist in cutting coconut leaves and pandanus for weaving mats and baskets, girls also help. Boys also help men with all tasks and climb the coconut trees to get drinking nuts.

Women's tasks on the atoll, according to men are as follows:

- Harvest taro and store enough food
- Cook as much as possible in advance
- Prepare smoked fish
- Make indoor and outdoor brooms
- Weave enough coconut leave mats so that there is a supply to cover windows, walls, shutters, as well as coconut and pandanus mats for sleeping
- Help men to collect firewood (*kaume*) dead coconut fronds/shoots
- Make coconut ropes to secure houses
- Girls help mothers with all tasks, including watching children, also help boys by passing up thatches when house is being built/repaired
- Afterwards; check children, help clean up, harvest and replant crops

Their experience of disaster in the Honiara settlement was the 1986 cyclone Namu, and earthquakes in 1977 and 1979. They did not say much about this, other than that they devastated the settlement.

Preparation activities in Honiara were seen as less gender differentiated. Men, women and boys, they said, should co-operate as follows:

- Clear trees, debris any objects that could cause damage in flood or high wind

- Men should build strong houses, and in the cyclone season, or when a warning is received, check houses for weaknesses, loose bits, and weak posts, and make repairs.
- Identify safe routes and safe shelters
- Stock up with torches, batteries, matches, and kerosene lamps.
- Listen to radio warnings
- Men and women both watch the children
- Organise /share/obtain transport for evacuation
- Buy food and water
- Turn off electricity
- Youth to help elders with all tasks
- Youth to take care of livestock move canoes inland and carry sand bags to protect houses from flooding
- Afterwards, everyone should help to clean up.
- Men should repair or rebuild houses, do damage assessment, make report, and men should conduct search and rescue.

Women's perception of disaster management

The women interviewed talked extensively about their experiences of disaster. Few, if any were old enough to remember the disasters on Ontong Java, or had not been present during them. They had heard that the 1967 cyclone had blown down all the coconut trees and the sea covered the village and damaged the taro patch. After the cyclone the coconut trees did not recover and bear fruit. There was no food for a long time[10].

On the atoll when women saw signs of a storm coming, or during the cyclone season, they would accumulate foods that could be stored. The customary way was to prepare and store emergency foods by burying them safely in the ground.

[10] Randall Biliki, the Disaster Management Officer for Solomon Islands said that many small outer islands, paradoxically, were able to survive better than many communities on the larger islands. They were accustomed to taking care of themselves and dealing with hardship. They gathered what they could after the disaster and had enough food for about a month, by which time government relief supplies reached them.

In Honiara, whatever the cause of disaster, storm, cyclone, flood or earthquake the results were the same to a greater or lesser extent. Disaster preparation was virtually impossible because of the environment they lived in. The settlement was covered with mud, driftwood and rubbish washed in from the river and sea. People suffered greatly and everyone was afraid, hungry or sick. There was nowhere to go to relieve themselves, no cooking was possible because there was no dry fuel and nowhere dry to store it, hardly anyone had gas or kerosene cookers. There was no clean water and nowhere to obtain it from. Houses were damaged and some were destroyed. Children could not go to school. However they said that the following procedures should be carried out by women when a warning came:

- Store water in clean containers
- Keep children in the house
- Store kerosene, candles, batteries, torches, matches, medicines.
- Prepare warm clothes
- Secure cooking utensils in safe place
- Move chickens and pigs to a safe, high place
- Store firewood in a safe high place
- Pay attention to radio warnings
- Afterwards, they should clean up, store belongings, wash everything, assist sick people, boil drinking water, give praise to God for safety

The women thought that the men should make the following preparations:

- Cut down trees
- Build stronger houses, or repair them
- Take canoes inland to higher ground
- Listen to radio cyclone warnings, heed advice given
- Make a water tank
- Dig drains
- Cut the firewood for women to store
- Afterwards, men should repair houses, cut firewood, clean the village, seek advice from national disaster office.

When asked about community roles in disaster management, they said they thought that the community leaders should meet with the people to make sure they were advised about the cyclone warning. They said the community should also form a disaster committee (there is none at present). The disaster committee could take the community needs/loss assessment to the national disaster committee.

It was the government's job, they said to make sure everyone had adequate warnings by radio and that people in vulnerable locations such as theirs were given transport for evacuation and a place to be relocated. The government should also help the community with money to store up supplies before the disaster happens, they said. After a disaster, government should provide relief supplies, water tanks, transport, etc. immediately and provide land for the community to resettle.

Both men and women agreed that the community had the responsibility to keep their community area clean and tidy, and that they should establish a disaster committee, a fund for disaster preparation, and do fund raising activities. Men and women also mentioned the need for government assistance, allocate land and give assistance to resettle the community in safe areas. It should work through a community disaster committee to move people from the settlement area, and help with funds for a disaster committee

Legalau village, Tasimboko

The second village selected for this study was Legalau village in the Tasimboko district. The village is not far from Honiara, about 2 hours drive on a very poorly-maintained, unsealed road. The access road to the village from the main road is in an even worse condition and must be very hard to travel on in bad weather. Communications, even to a village so close to town are poor. There is no telephone link, but about half the households own radios. Health care is available some distance away; the closest health clinic is at the oil palm plantation company (SIPL) and the next closest is the provincial health centre at Ruavatu. Primary and junior-secondary education is accessible, although getting to school is a long walk for most children in the district.

Most of the villages are quite small, but there are many in the area, not far from one another. Legalau and other villages in the district are very self-reliant as there are no modern services such as electricity (except a generator for the church). The water supply varies from village to village. In Legalau there are 6 tanks, some have water-pipe tap access, and many use open wells. The houses are all of bush materials except the church, and minister's house. Typically they are thatched rectangular structures with woven bamboo walls, bamboo floors, on posts 1.0- to 1.2-metres high. Some dwellings are built at ground level near the river and looked extremely vulnerable to flooding.

The Lego speaking area in which Legalau is a major village is divided into 5 matrilineal clans (Kema), subdivided into numerous (90-100) sub-clans (Mamata). There are three levels of male leadership: one paramount chief is elected by the five Kema. Each Mamata has a chief, the senior male in the descent group, and, at the third level, each village has a chief responsible for community, as distinct from kin group matters. People may not marry relatives of their mother's side but can marry relatives who are not too close on their father's side. Women transfer inheritance rights to their children, but men are in charge of land and decision making at all levels.

Most of the adult women had not completed primary school. There are churches of different denominations in the area, and all have women's groups. Women's groups are mainly to do work to help the church, visit the sick, to eat together and socialise, and when the opportunity arises, learn skills such as sewing, or religious knowledge.

On the economic side, a few villagers earned wages (there are large commercial oil palm plantations nearby) but most village income is from agriculture; both export crops (cocoa, copra), and subsistence crops (taro, yam, sweet potato, fruit, vegetables) sold in the Honiara market.

The meeting was attended by 52 men and 47 women from Legalau and neighbouring villages of Siara, Taivu, Tenghau, Tau, Ngalitaveghe. Because of the large number of people, discussion took place in four workshop groups, two composed of men and two of women. The meeting was held outside the church under two large trees. They were asked to discuss two topics; (i) disasters and their experience of disaster, (ii) men's, women's, community and government roles in disaster preparedness. The responses of each group were reported back by a person chosen by the group. They held the discussions in Lego language and reported in Solomon Pijin.

People's experience of Disasters

Both men and women gave the same answers to this topic.

- Disasters were defined as cyclones, heavy rains causing flooding, earthquake, drought, pests destroying food crops, pollution, tidal waves, civil disturbances leading to violence and arson, and major accidents.

- Experiences arising from disasters have been food shortages and famine, epidemics, soil erosion and landslides, rough seas, flooding of homes and gardens, destruction of food sources, gardens, water pollution, damage to houses, no money due to lack of produce to sell, and interrupted access to education, communications and transport.

Men's responses

Men's role in preparing for disaster

- Strengthen houses and shelters
- Secure roofs of houses
- Young men to gather/harvest food, collect water and firewood

- Buy supplies: torches, matches, storable foods, medical kits
- Listen to radio warnings
- Try to get first aid kits
- Move boats and canoes to high ground
- Ensure action is taken as soon as warning heard
- Plan place to move family to, if serious wind/flood warning
- Cut trees around house if serious cyclone warning
- Establish a savings fund to buy essential supplies such as kerosene, batteries for torches and radios, storable food, etc.

Women's role in preparing for disaster

- Harvest garden and cook food in advance
- Secure all cooking utensils
- Store firewood in a dry place
- Prepare clothing for the family
- Ensure children stay in the house and are watched

Community role in Preparation for disaster

- Form a disaster committee in every village
- Appoint a rescue team from among the committee
- Raise funds for disaster preparedness before disaster
- Educate community to keep them calm and enable them to prepare well
- Assist evacuation if necessary, but advise people on what to do before they move away
- Ensure disabled and elderly are taken care of and helped to evacuate if necessary
- Remove animals to a safe place
- Warn the people if ethnic tensions put them at risk

Women's Responses

Women's role in disaster preparation

- Obtain emergency supplies: matches, torches, batteries, radio, kerosene, storable foods such as rice, tinned food, hard biscuits
- Collect and store extra firewood
- Harvest extra food from garden
- Cook and store as much food as possible in advance

- Collect clean drinking water and fill buckets, bottles, pots
- Stockpile drinking coconuts
- Keep children together under supervision
- Put things away in a high place
- Plant reserve food crops such as banana and giant taro on high ground

Men's role in preparing for disaster

- Build better, stronger houses
- Secure houses when warning comes
- Prepare drains, sandbags, ropes
- Ensure all are given early warning and advice
- Take canoes inland

Community role in disaster preparation

- Co-operate to dig drains around houses
- Pass warning around and help everyone to stay calm and prepare well
- Trim the trees near the house

Government's role in disaster preparation

- Improve roads and communications
- Improve water supply
- Help people to obtain water tanks
- Help communities to obtain building materials, such as roofing iron, to improve the strength of their houses
- Provide funds or transport to health centre and hospital when people are sick
- Help communities to store kerosene for emergencies
- Establish a disaster-warning centre with a telephone in every ward

Discussion

In Legalau men had more suggestions to make on general management issues, particularly the older men; they knew more, or had more ideas than younger men, especially when it came to community and government roles.

In the Lord Howe settlement, more women responded and they had a broader range of answers and seemed a lot more interested than the men.

In both communities women's knowledge and interests were based on household preparation and food and water provision, and was more focused on practical issues than on broader planning issues.

The knowledge of principles of disaster preparation was good in both communities, attesting to the effectiveness of broadcasts done by the National Disaster Management Office. However, it is likely that many of their good ideas will not be put into action, due to their more immediate priorities in life, or their lack of cash income. People are more likely to only think about such actions during the cyclone season, which might be too late. Further, many suggestions were more theoretical than practical. For example they know "what" should be done but seemed a bit unclear about "how". This was especially the case in the Lord Howe settlement where, in the event of a major storm, there is little the community could do to mitigate its effects, because of the unsafe locality in which they live.

Disaster Management

The chart on page 57 reflects what women and men said the local arrangements would be, if prior arrangements were in place, which did not seem to be the case. People were more certain as to who would have responsibility at the household level. At the community level the arrangements were more hypothetical.

Summary of Culturally Approved Masculine and Feminine Roles Prevalent among *Melanesian* Solomon Islanders

Activities, Access and Control	FEMALE			MALE		
	Adult	Youth	Elder	Adult	Youth	Elder
Crops						
Land preparation				XXX	XX	XX
Planting food crops	XXX	XX	XX			
Planting export crops				XXX	X	XX
Weeding/watering/ spraying /fertilising	XXX	XX	XX	XX	X	
Harvesting	XXX			X	X	
Carrying from plantation	XXX	XXX	XX	X	X	
Marketing food crops	XXX		XX	XX		
Chooses food crop	XXX					
Selects site	XXX			XXX		XXX
Controls crop income	XX			XXX		XXX
Chooses to give away and to whom	XX			XXX		XXX
Fishing (not practised much in many areas)	**Adult**	**Youth**	**Elder**	**Adult**	**Youth**	**Elder**
Inshore fishing with hook and line	XX			XX	XX	
Inshore spear fishing				XX	XXX	
Inshore reef/shallows gathering	XXX	XXX	XX			
Fishing from canoe or motorised fishing boat				XXX	XXX	XXX
Marketing fresh fish	XXX			XXX		XXX
Marketing cooked fish	XXX					
Owns boat/cane				XXX	XX	XXX
Uses boat/canoe	XX					
Owns fishing gear	XX			XXX	XX	XXX
Uses fishing gear	XX			XXX	XXX	XXX
Controls catch income	XX			XXX		
Divides catch, chooses to give away and to whom	XX			XXX	XX	XXX
Domestic	**Adult**	**Youth**	**Elder**	**Adult**	**Youth**	**Elder**
Cooking, washing, cleaning, infant care.	XXX	XXX	XXX			
Traditional cooking	XXX	XXX	XXX			
Collect and carry fuel	XXX	XX	XX			
Collect and carry water	XXX	XX	XX			
House-building, repair				XXX	XX	XX
Handicraft using plant fibres, shell	XXX	XX	XXX			
Handicraft: carving, cane work,				XXX	XX	XXX
Clean, weed compound	XXX	XXX	XXX			
Feed chicken, pigs	XXX	XXX	XXX	XX	XX	XX
Community Management						
Public order				XXX		XXX
Church	X		X	XX		XXX
Public health	X		X			
Water supply				XXX	XX	XXX
Public works (seawall, road, etc.)				XXX	XX	XXX
School	X		X	XX		XX

Key: XXX: very active/main responsibility XX: less active /subsidiary role X: occasional or seasonal role

	FEMALE			MALE		
	Adult	Youth	Elder	Adult	Youth	Elder
Risk perception and awareness	xxx	xx	xx	xx	xx	xxx
Knowledge on type, magnitude and impact of previous disasters	xxx	xx	xxx	xxx	xx	xxx
Food and emergency supply storage	xxx	xx	xxx			
Store water	xxx	xx	xxx			
Trimming trees				xxx	xx	xx
Identification of emergency routes				xxx	xx	xxx
Identification/construction of emergency shelter				xxx	xx	xxx
Provisions for shelter	xxx	xx	xxx			
Clean up compound (objects etc.)	xxx	xxx	xxx	xxx	xx	xx
Strengthen threatened structures				xxx	xx	xx
Develop warning systems at community level				xxx		xxx
Reception of disaster warning	xx	xx	xx	xxx	xx	xxx
Secure family members	xxx	xx	xxx	x	x	x
Assist people in need	xxx	xx	xx	xxx	xx	xx
Secure/protect family belongings	xxx	xx	xx	xx	x	xx
Secure/protect house				xxx	xx	xxx
Secure emergency food, water etc.	xxx	xx		xx	xxx	xx
Authorise/initiate evacuation						xxx
Harvesting/protecting/securing crops	xxx					
Tracking of warnings/storms	x	x	x	xxx	xx	xxx
Food preparation	xxx	xx	xx			
Clean-up post disaster	xxx	xxx	xxx	xxx	xxx	xxx
First damage and needs assessment				xx		xxx
Decision making						xxx
Supportive roles	xxx	xx		xxx	xx	
Management of emergency shelters				xxx		xxx
First aid	xxx	x	xxx	x	x	x
Asking government for relief				xxx		xxx
Identification of most needy				xxx		xxx
Distribution/allocation of emergency relief at village and household level				xxx		xxx
Asking for government recovery/reconstruction assistance				xxx		xxx
Decision on recovery needs				xxx		xxx
Identification of action				xxx		xxx
Implementation of action:	xxx	xx	xxx	xxx	xx	xx
Site selection				xxx		xxx
Decision on building type & size				xxx		xxx
Repairs & maintenance				xxx	xx	xxx
Management of water sources				xxx		xxx
Labour for constructing, repairing water supply, village roads, village seawall	xxx	xx	xx	xxx	xxx	xx

Fiji Islands

Background

Fiji has a population of around 800 000 with a growth rate of about 1.7 per cent per annum (1993). Indigenous Fijians, (a people of Melanesian stock with some Polynesian admixture, particularly in Eastern Fiji) comprise about 50 per cent of the population. Indo-Fijians (the descendants of labour migrants from the Indian sub-continent) are 45.0 per cent, while the remaining five per cent comprise citizens of mixed ancestry, Europeans and Chinese and other Pacific Islanders. Fiji comprises hundreds of populated islands, but most of the population live on the large islands of Viti Levu and Vanua Levu.

Among both major ethnic groups cultural institutions, more strongly emphasised in rural communities, accord women low status. For example, Fijian society is based upon territorially based, patrilineal descent groups termed *yavusa*, which are subdivided into *mataqali*, the land-owning kin groups. Women have only limited rights within this system as property is transferred through the male line. Among Indo-Fijians, customary norms are for women to receive a dowry at the time of marriage, but for major assets (land, buildings, etc.) to be passed to male heirs only.

Although historically women of both major races have had a subordinate position relative to men, the situation is changing rapidly due to the educational achievement of Fiji women and their increasing representation in the professions and other non-traditional occupations. Among both races, slightly more females than males complete primary school. More females than males enter secondary school and Fijian females outnumber males up to form VI, but there is a slight decline among Indo-Fijian females at that level. Females maintain close parity with males in tertiary education, but tend to be concentrated in traditional female areas such as teaching, nursing and clerical studies. In 1994, 34 females compared to 44 males were awarded overseas scholarships. Gender disparity in educational attainment is far more marked amongst older people (50+) of both major races, and women are much more likely to be illiterate than men. Women's education achievements are raising their social status and permitting them to play a greater role in government.

Daku Village, Rewa Delta, Tailevu

Daku village was selected by the Tailevu provincial office because it is considered a model community in many respects, and because it is vulnerable to floods. It is about an hour's travelling time from the capital city of Suva near the large town of Nausori. Daku is an old village which founded two new villages nearby, Kalele and Anitioke. The three villages cooperate closely and are linked by kinship. The villages comprise 8 *mataqali* (patrilineal clans). Daku has a population of 190 people in 39 households.

The village is a nucleated settlement located on the edge of a tidal creek and surrounded by patches of mangrove and cultivatable dry land. The houses vary in quality and are made of wood, galvanized iron and cement. There is a large community house furnished with mats and historical photographs for meetings and kava consumption. The village has adequate land, but pressure in the past led to the formation of the new villages. It has piped water, electricity for lighting (villages pay for electricity in advance of use) most households use both kerosene and firewood for cooking.

The village has its own basic services, a primary school, a clinic staffed by a nurse; and recently became linked to the main highway by extension of an access road. The village was previously accessible only by boat.

In 1937, the village adopted a communal system of organisation, at the instigation of their chief of that time, who was concerned about the poverty of his people. The hereditary chief has authority over the three villages, but each also has its own *Turaga ni Koro* or village head man, who is the link between the village and the government. The chief delegates certain powers to discuss and make decisions for the village to an all-male village committee, which includes the *Turaga ni koro*; but he, the chief, has the final say. The women's group of Daku has about 30 members. The group elects its leader and has no outside affiliations; the rule of the village committee is that the women's group should work only for the village. Daku also has its own rugby club.

The communal system is based on three days a week of community work in the communal plantation of food crops and coconuts, and other village work. This work is done by men and male youths, and women

prepare food for them and the village eats together on working days. Members of the village Women's Club do one day a week of communal weaving of mats and fans. The communal produce and income is used to help with village functions, the church, school, weddings, and funerals. Another three days of the week are set aside for household based production activities, and Sunday is strictly observed as a day of rest and religious observances.

The store belongs to the community and the storekeeper works voluntarily, but is helped by the community. There is one church (Methodist) for the 3 villages, which is the best building in the village. It has a youth group. Most children attend secondary school, using a variety of schools in town and in the district.

The village is in a vulnerable location and there were attempts in the colonial period to resettle the people. The rich marine environment affords the village a good standard of living so they prefer to stay where they are. Village income is mainly derived from seafoods from the mangroves and women's handicrafts. Women collect shellfish and trap crabs for sale and family food; men trap freshwater crayfish for sale (the highest-value species in the local environment). Both women and men sell seafood, and women sell mats, and a unique type of fan made from coconut shoots, to various contractors. Men produce most of the food supply from agriculture and fishing. Root crops are cultivated, mainly by men. Women weed, harvest and plant pandanus species for craft work. Cooking and domestic work is done by women. Men cut firewood and carry water when there are periodic shortages. Firewood is collected by all members of the household. Women probably work longer hours and earn more income than men, but men were said to control household income in most but not all cases. Only four people work for wages outside the village, three men and one woman, although there are many Daku people living in and working in towns.

The meeting was attended by ten women and fourteen men. They provided the following responses after discussing the questions put to them in separate groups.

Men's responses

Knowledge and experience of disaster

- The community is in a vulnerable location for flooding, but this is offset by the fact that it is a rich economic environment for fishing and seafood harvesting.
- High tides and salt-water intrusion are the most common problems. Tidal intrusions occur regularly, causing salt-water intrusion and damage to crops. Irrigation in surrounding areas (for a rice scheme) increased the severity of flooding in the village.
- After floods enough food crops can be harvested to last about 3 weeks, but the village is able to buy food using income from seafood sales.
- The stocks of crabs, crayfish and other seafoods are not affected by flood but tend to be increased by them.
- The village has also been damaged by cyclones (Bebe and Kina) causing flooding up to the top step of houses, lasting 1 or 2 days, depending on rain. People living in low-lying houses have had to be temporarily evacuated to the community centre and the school.
- Improvements to the village such as earthworks to raise the ground level and a seawall are planned, and will make it more secure.

Men's roles in preparing for disaster

- Secure houses, roofs, add weights to roofs, use ropes to strengthen house
- Organise sufficient materials for the above
- Cut tops of cassava plants to protect them from wind
- Trim trees
- Heed radio warnings, make sure everyone is warned and prepared
- Young men go and help any household in need of extra hands
- Plan evacuation of vulnerable households and organise village to feed them

Women's roles in disaster preparation

- Ensure enough food, firewood, drinking water is stored to last at least 2 days
- Prepare lamps, candles, matches
- Keep the children inside and watch over them

Community role in disaster preparation

- Everyone helps to clean up. Disasters increase the sense of solidarity in the community

Government's role in disaster prevention

Government should help the community to build a seawall and provide assistance/equipment to raise up the ground level of the villages. The villages will provide labour

Women's responses

Knowledge & experience of disaster

- There are seven types of disasters: flood, tidal wave, hurricane, earthquake, drought, being lost at sea, and fire
- The cyclone season November to April is the time to be prepared
- Their worst experiences are of post-hurricane floods, drought and fire
- Floods have periodically covered the village requiring some families on low ground to relocate temporarily
- High winds have blown down houses, but houses are now stronger and improved with raised kitchens and fire places
- A recent drought led to changes in water levels in the soil, causing dalo to lose its flavour and texture
- Recent fires caused loss of crops, but the men had planted two locations, so food supply was adequate
- Information from the radio is useful but experience was the best teacher. Hurricanes are usually 24 hours in duration

Women's perception of their role in disaster preparation

- Go with all members of the family to harvest crops
- Cook as much food as possible in advance, use the fridge if one is owned (but few own them)
- Make sure that enough food is prepared to share with those in need
- Prepare emergency lights: lamps, torches, and candles
- Obtain extra supplies of kerosene
- Fill containers with clean water
- Pack up household belongings in case it is necessary to move, and to keep them safe in high winds and flood
- Move to community centre if the house is in a vulnerable location, others staying in their homes

Men's role in preparing for disaster

- Cut mangrove wood to make shutters for buildings and homes
- Secure and repair houses, church, community centre
- Cut and stack firewood
- Make sure enough food has been planted (for example enough food had been planted in several areas, so the fire did not destroy all the food)

Community and government's role in disaster preparation

- Men (committee and chief) are the leaders and give instructions to the community; they also deal with government

Discussion

The people of Daku are a conservative community with an unusual degree of communal activity and organised male control. Their system is designed to take care of everyone in the community and to keep resources within it. Their environment is vulnerable but their experience of living in it is undoubtedly the reason why they showed such a high degree of self-reliance.

Men's risk awareness was focussed on their experiences of disaster, rather than disaster which had not affected them. Women had a broader knowledge of the range of risks, but this was due largely to one

very young woman in the group, who provided many of the answers about risks which the village had not actually experienced. Men's responses underestimated women's roles and contributions, but the reverse was not the case. Women acknowledged male authority but had a clear grasp of their own specific roles and responsibilities.

When the answers of the two groups were read out, the men showed interest and enthusiasm about their own responses, but not so much interest in the women's responses. The strong male control of the village has positive aspects in that it ensures that men work hard for their village and families and maintain social order. Male pride in Daku seemed strongly invested in their decision-making roles, control of key resources, and their roles as the "providers" for the village. The village rule that prevents the women's group from outside affiliations, (e.g. with Soqosoqo Vakamarama and the Ministry of Women's Affairs, various NGOs and women's organisations that offer training, fellowship and other means of empowerment) seems to isolate the women of Daku.

Summary of Gender Roles Among Fijians

The chart across the page is, of necessity, a generalisation. Fijian society is homogeneous relative to Solomon Islands, although cultural practices are not as uniform as in Samoa. There are considerable differences between women's roles in the system of production in Fiji. Women in highland of Viti Levu do much of the agricultural work, as in several other areas of Western Fiji. In eastern Fiji women do less agricultural work but much of the day-to-day fishing. Fiji has a chiefly system, but unlike Samoa there were few chiefs (head of *yavusa* – groups of *mataqali*) but men are ranked in relation the seniority of their *mataqali* as well as by age, capability, education, wealth, etc.

Disaster Management

The chart on page 66 reflects what women and men said the local arrangements would be, if prior arrangements were in place – which did not seem to be the case, except for the arrangements in Daku for evacuation arrangements to the school and community centre. People were more certain as to who would have responsibility at the household level. At the community level the arrangements were more hypothetical.

Activities, Access and Control	FEMALE			MALE		
	Adult	Youth	Elder	Adult	Youth	Elder
Crops						
Land preparation				XXX	XX	X
Planting food crops	XX	XX	X	XXX	XX	X
Planting export crops	X	X		XXX	XX	X
Weeding/watering/spraying/fertilising	XX	X		XXX	XX	X
Harvesting	XXX	XX	XX	XX	XX	
Carrying from plantation	XXX	XX	X		X	
Marketing food crops	XXX			XX	X	
Chooses food crop	XXX			XXX	X	XXX
Selects site				XXX		XXX
Controls crop income	XX			XXX		XXX
Chooses to give away and to whom	XX		XX	XXX		XXX
Fishing (not practised much in many areas)	**Adult**	**Youth**	**Elder**	**Adult**	**Youth**	**Elder**
Inshore fishing with hook and line	XXX					
Inshore spear fishing				XX	XXX	
Inshore reef/shallows gathering	XXX					
Fishing from canoe or motorised fishing boat				XXX		
Marketing fresh fish	XXX			XXX		
Marketing cooked fish	XXX					
Owns boat/canoe				XXX		XXX
Uses boat/canoe	X			XXX	XXX	XXX
Owns fishing gear	XX			XXX	XXX	XXX
Uses fishing gear	XX	XX	XX	XX	XX	XX
Controls catch income	XX			XXX	XX	XXX
Divides catch, chooses to give away and to whom	X		XX	XXX		XXX
Domestic	**Adult**	**Youth**	**Elder**	**Adult**	**Youth**	**Elder**
Cooking, washing, cleaning, infant care	XXX	XXX	XXX			
Traditional cooking	XXX		XXX	XXX	X	
Collect and carry fuel	XXX	XXX	X	XX	XX	
Collect and carry water	XXX	XXX	X	XX		
House-building, repair				XXX	XXX	XXX
Handicraft using plant fibres	XXX	XX	XXX			
Handicraft: carving				XXX	XX	XXX
Clean, weed compound	XXX	XXX			XXX	
Feed chicken, pigs	XXX			XXX	XXX	
Community Management	**Adult**	**Youth**	**Elder**	**Adult**	**Youth**	**Elder**
Public order				XX		XXX
Church				XX		XXX
Public health	XXX		XXX			
Water supply				XXX		XXX
Public works (seawall, road, etc.)				XXX	XXX	XX
School	X		X	XXX		XXX

Key: XXX: very active/main responsibility XX: less active /subsidiary role X: occasional or seasonal role

	FEMALE			MALE		
	Adult	**Youth**	**Elder**	**Adult**	**Youth**	**Elder**
Risk perception and awareness	xxx	xxx	xxx	xxx	xxx	xxx
Knowledge on type, magnitude and impact of previous disasters	xxx	xxx	xxx	xxx	xxx	xxx
Food and emergency supply storage	xxx	xx	xxx			
Store water	xxx	xx	xxx			
Trimming trees				xxx	xxx	xxx
Identification of emergency routes				xxx		xxx
Identification/construction of emergency shelter						
Provisions for shelter	xxx		xxx			
Clean up compound (objects etc.)	xxx	xxx	xx	xxx	xxx	xx
Strengthen threatened structures						
Develop warning systems at community level				xx		xxx
Reception of disaster warning				xxx		xxx
Secure family members	xxx			xxx		
Assist people in need	xxx	xx	xx	xxx	xx	xx
Secure/protect family belongings	xxx			xx		
Secure/protect house				xxx	xx	xx
Secure emergency food, water etc.	xxx	xx	xx	xxx	xx	xxx
Authorise/initiate evacuation						
Harvesting/protecting/securing crops	xxx			xx		
Tracking of warnings/storms	xx	xx	xx	xxx	xxx	xxx
Food preparation	xxx	xx	xxx	x	x	x
Clean-up post disaster	xxx			xxx		
First damage and needs assessment				xxx	xx	xxx
Decision making				xxx		xxx
Supportive roles	xxx	xxx	xxx		xxx	
Management of emergency shelters				xxx		xxx
First aid	xxx	x	xxx			
Asking government for relief				xxx		xxx
Identification of most needy				xxx		xxx
Distribution/allocation of emergency relief at village and household level				xxx		xxx
Asking for government recovery/ reconstruction assistance				xxx		xxx
Decision on recovery needs				xxx		xxx
Identification of action				xxx		xxx
Implementation of action:	xxx	xxx	xxx	xxx	xxx	xxx
Site selection				xx		xxx
Decision on building type and size				xxx		xxx
Repairs and maintenance				xxx	xxx	xx
Management of water sources	xx		xx	xxx		xxx
Labour for constructing, repairing water supply, village roads, village seawall	xx	xx	x	xxx	xxx	x

Kiribati

"An indication as to the status of women is provided by the old custom of Kiribati practised at a girl's first menstruation. The girl is secluded in a hut for three or four days, in the company of an old lady. The old lady talks to her all day, every day, and explains to her the "facts of life" and all about her future role as a woman. The girl sits and makes string from coconut fibre. String is a humble but indispensable commodity. It is used to tie things together – houses, tools and canoes, and in the past, to make nets and fishing lines. String is a symbol of women's status in the community. During her seclusion, the girl is given very little to eat and drink, and her stomach is bound tightly to stop the hunger pangs. This symbolises her role in life. She must put her family before herself; she must feed them first, and only eat when everyone else has had enough."[11]

Kiribati is a group of 33 atolls forming three main groups; the Gilberts group (16 inhabited islands), the Line islands of which 3 are inhabited, and the Phoenix islands, of which one is inhabited. The total land area is only 810 square kilometres, but the marine zone is very large; over 3 million square kilometres. Over one third of the population of about 80 000 live on a chain of islets linked by causeways on the southern side of Tarawa atoll. South Tarawa is the seat of the government, has an international airport, the country's major port, and is the commercial centre of the country.

Due to its limited land and meagre economic resources, Kiribati has a serious population problem with a youthful population (41.0 % under 15) and a growth rate of about 2.0% per annum.

Women are active in the informal and formal economy, and in middle management in government and private enterprise, their educational participation rate is only a little lower than men and their success rates were said by several officials to be higher at secondary and university levels. In the village economy men do the fishing and cut and collect palm sap (which are the riskiest jobs, and produce the most traditionally highly-valued foods). They occupy most senior management positions and exercise exclusive control of democratically-

[11] Communication from Mrs Meeme Tong

elected government at national, and more traditional systems of government at local levels. About twice as many men are involved than women in the cash economy, (5253 men, 2596 women).

The most typical form of cultural-social organisation in Kiribati (remembering that there is variation between atolls) is the *kaiga*, similar to descent system described for Samoa. In this system women may and often do inherit and own land as well as men.

Communities are defined by a shared *mwaneaba* or community meeting house. These are big, long buildings mainly consisting of a high thatched roof which sloped steeply to low eaves. Traditionally the roof sits on hewn coral rocks and the floor is of coral gravel covered with layers of mats, but modern *mwaneaba* may have cement posts and floors and iron roofs, although adhering to the traditional shape. These are said to be designed to withstand storms. *Mwanaeaba* are sacrosant places and there are strict rules about how people conduct themselves in or near one. Villages are led by groups of *unimane* (old men) as are the island local government councils.

Kiribati has two main churches, Protestant and Catholic. These have influential women's groups (Reita Aine Kamatau – Protestant; and Te-Itoi-Ningaina – Catholic). These have national offices and groups in all villages where their churches are. They, along with minority church women's groups and NGOs form the AMAK, or National Women's Council which is under the Ministry of Environment and Social Development.

Kiribati is assessed as being at relatively low risk from cyclones but storms which would have little effect on larger islands can create major damage to food plants on islets which are mere strips of rocky coral land between the ocean and a lagoon. The shortage of water means that drought is an ever-present threat to crops and human health.

Kiribati had been experiencing drought for the past year at the time of this study. Its impact on South Tarawa was very noticeable. Many breadfruit trees were dead and dying, many coconut palms looked unhealthy and were not bearing fruit. The ground water is very polluted and many wells have dried up. Water was being pumped from new wells past Bikenibeu at the far end of South Tarawa. There had been a dysentery epidemic in the weeks before this study was conducted; and

according to various informants about 453 people had been severely ill and 8 children and old people had died.

The problem of drought is compounded by problems of sanitation. The beaches of South Tarawa are littered with rubbish: excrement, bottles, tins, plastic bags, and other refuse. It was obvious that people expend great effort cleaning their compounds, but there is more rubbish around in so over populated an area that there are insufficient means of getting rid of it.

Betio

Betio was selected as an urban village on highly-urbanised South Tarawa. Once a separate islet, it was joined to Bairiki, which in turn is linked to the other islets of South Tarawa, by a causeway. Prior to that, access was by ferry. Betio is one of the most-densely populated localities in the world and contains over one third of South Tarawa's population. The nucleus of the population are the people of the traditional village, but like other areas of South Tarawa, settlers from the outer islands outnumber the "indigenous" people. Substantial parts of the islet have been acquired by government over time, for public utilities, government housing and sports fields.

Typical South Tarawa housing are built of a mixture of palm thatch, mangrove wood and imported timber and iron. Most households consist of several sleeping houses, usually small rectangular, thatched, open-sided structures with wooden floors and frames on posts about 1.5 metres or more above the ground. Kitchens are larger, usually built at ground level and usually open-sided or partly so, with woven coconut mat shutters to shelter them. They serve as a place to sit, and to eat for the family.

It is often said that i-Kiribati are a fatalistic people, accustomed to the hardships of life on an atoll so they live for the day and don't worry too much about the future. In Betio, the impression was given during the interviews that the people were distressed and angry about their situation and were willing to take any action they could to improve the hardships they were enduring. They said that they were not getting the government help they needed for their plight. The meeting took place in the major community *mwaneaba* of Betio and was attended by 30 adults

and elders, 15 men and 15 women. They discussed the questions in separate groups. One elderly woman, was referred to as a "female *unimane*" (a female "old man") and she emphasised that female elders, like male elders should make decisions for the community. She played a leading role in the meeting, and spoke formally just as the men did. However, people said she was unusual getting the respect of the community to take a public role.

Men's and Women's experience of disaster

Both women and men gave the same answers to the questions "what are disasters?" and "What experience have you had of disasters?" They said that they were aware of the risks of high winds and tides resulting from storms and had experienced these in the past. But they said they did not want to discuss them because they were not so concerned with disasters which might happen in the future, but with the disaster they were facing now.

The main disaster risk for them is of an epidemic caused by lack of water and sanitation and overcrowding. The recent epidemic could happen again at any time, they feared.

The root cause of all their problems was overcrowding, squatters, and over population on Betio. Government occupies much land on Betio they noted. There were no laws to prevent urban drift so the problem increases every year. The village and settlers are thus forced into crowded conditions. There was massive unemployment – people had no money but also nowhere to grow food crops, so families were suffering poverty, bad diets or not enough to eat.

Water was a major issue. On South Tawara only the better off of the 3520 households have rainwater catchments (819). 1945 have piped water, and 2057 use groundwater wells. On Betio few houses have piped water and those who do experience low or zero water pressure, and if there is water it is often salty after the second bucket is filled. Their ground water had been declared unsafe by government, and an order had been issued that wells should not be used. However many were still boiling and using well water in preference to the water trucked in by government, which, it was said is too smelly to use. People living near sewage manholes said that sewage pipes were leaking and sewage

was polluting their wells which smelled of sewage, the surrounding area was polluted and tree crops planted in these areas were affected. They said they had heard government was buying a desalination plant for Christmas Island and raised the question as to why Christmas Island should have this facility when Betio and South Tarawa were desperate for water.

There were also not enough toilets for people to use. On South Tarawa, just under half of all households have access to toilets (but may not use them for various reasons), while over half have no toilets and use the beaches on both the ocean and lagoon sides. It was said, that the beaches on Betio were so fouled up from being over-used as a toilet, that people could not bring themselves to go there. Many people were using grassy areas, playing fields or anywhere they could find to relieve themselves.

A further problem was the pollution of the sea from the main port on Betio – it made fish caught around Betio unsafe to eat. Other problems were the dust from the unsealed road and the risk of accidents on these bad roads and the increasing coastal erosion.

Men's responses

Men's role in Disaster preparation

- Men make decisions
- Men do all heavy work
- Youth should work together to keep Betio clean
- A committee should be formed to make a plan for disaster management
- Men and youth should provide labour service to repair sewerage leak, and improve sanitation and water

Women's role in disaster preparation

- Look after the home where they have many things to do

Community role in preparing for disaster

- Form a committee to make a plan for disaster management
- Provide labour service to repair sewerage leak, and improve sanitation and water on Betio

Women's responses

Women's role in preparing for disaster

- Keep food and water clean so that the family does not get sick
- Teach cleanliness to children

Men's and male youth's role in preparing for disaster

- Work with women to solve the problems they are facing
- Help to improve the family standard of living
- Elders, men and women together, lead the village to prepare laws of sanitation

Community role in preparing for disaster

- Make plans for improved sanitation to BTC

Men's, Women's and Youth's perception of the local government role in preparing for disaster

- Make and enforce sanitation

Abaokoro

Abaokoro village is on North Tarawa, on the other side of the Tarawa lagoon from South Tarawa. It has a rural character, and a population of 4004 scattered among 14 villages, ranging in population from 197 to 820 people. The number of households per village ranges from 31 to 125. It comprises a string of islets of which some are linked by small causeways, while others can be crossed on foot at low tide.

Abaokoro has 300 people and 39 households. The North Tarawa local government building is beside the village, and there are several government houses there. Six houses have corrugated iron roofs and rainwater catchments. Some households have their own pump well and others use open communal wells in "the bush" (the plantation area towards the ocean side of the islet. North Tarawa has six clinics staffed by nurses, located so they are accessible to every village. There are 10 primary schools and one junior secondary school. Girls and boys attending the latter from distant villages stay with relatives or friends

during the week and are collected by canoe on Friday afternoon and returned on Sunday afternoon.

The economy of the village is based on remittances from sons and husbands working as seamen, and the sale of fish, seafood and fresh produce (breadfruit, vegetables, coconuts, etc). The latter source of income has been severely affected by the drought as trees are not bearing and there is not enough water to grow vegetables.

The chief councillor of North Tarawa said that a big concern for the people of the area was that it would gradually become urbanised, like South Tarawa. Already, he said, migrants from other islands were buying land. The people did not want the overcrowding and pollution of North Tarawa to affect them. He said there had already been several epidemics and four people on North Tarawa had died in the most recent of these.

A meeting was held in a small *mwaneaba* belonging to an extended family. Nine women and eleven men, ranging in age from elderly to adolescent, attended.

Women's and Men's experience of disaster

High winds (1997), high tides, flooding leading to:

- some damaged houses, saltwater intrusion and damage to crops, erosion of the foreshore
- seawalls all collapsed
- damage to roads
- food shortage
- general suffering, and fear during the storm

Men's views

Men's and Youth's role in preparing for disaster

- Build strong, solid house frames
- Trim or cut trees near houses
- Secure seawalls

- Make a risk assessment of the village and help those in need to secure their houses
- Male elders should encourage men to build strong houses of permanent materials
- People should work together, help each other

Women's role in preparing for disaster

- Work with the men and youth to secure the houses
- Protect the children

Community role in preparing for disaster

- Make a disaster preparation plan together
- Make a needs assessment

Local government role in preparing for disaster

- Assess the needs of each community for their safety, get machines and materials to build a seawall
- Inform the national government of the needs

National government role in preparing for disaster

- Provide funds for preparedness, and education programmes
- Provide post-disaster relief, and evacuation centres if needed

Women's views

Women's role in preparing for disaster

- Protect the family and make sure children are safe
- Prepare house blinds
- Stockpile coconut string (keep making it all through the year) to secure the house
- Collect dried palm fronds to secure the house and the roof

Men's and male youth's role in preparing for disaster

- Work together to get good timber to build strong, safe houses
- Plait coconut fronts to make an outer layer to protect the houses
- Trim the trees near the houses

Community role in preparing for disaster

- Male Elders should lead the community to make decisions, and guide the community on how to prepare, because of their experience

Local government role in preparing for disaster

- The men make these decisions

Discussion

Strangely, the subject of food and water was not mentioned in disaster preparation. When asked about it, people said they would get food from the store if they needed to and would drink green coconuts if there was no water. Nor did people have much to say about the drought, other than to discuss the effects on tree crops and possibility that it was related to the recent dysentery epidemic.

Table 3 indicates the variation in the division of labour by atoll, which is influenced by environment (for example some atolls, such as Butaritari are more fertile, have higher rainfall which permits more diversity of crops), what is going on that week, or in that season of the year.

What it does show is that there are no activities that are utterly exclusive to males and females; but that there are patterns of specialisation for men and women in which the opposite sex might participate out of economic necessity, or to lend a hand. Men's work is more narrowly specialised in highly-valued activities such as fishing and cutting toddy or income-generating activities. Women's work appears to occupy fewer hours because women do little fishing, the task that occupied the largest component of male time. Also time spent watching and caring for small children was not quantified, but they do a wider variety of tasks. Further, many women's time-consuming activities were being replaced by imported goods (nylon monofilament and nails are replacing string). When cash is available people consume sugar and rice instead of more labour-intensive traditional foods.

The weakness of this analysis is that it does not take age as a variable, nor does it measure leisure activities, such as sitting in the *mwaneaba*, playing games, resting and so on.

Table 3. Gender analysis of household labour on Onotoa and Butaritari atolls by time over one week.

Activity	Onotoa atoll		Butaritari atoll	
	Male hours	Female Hours	Male Hours	Female Hours
Fishing	**520.14**	58.12	**930.50**	9.00
Salting fish	0.25	5.41	-	-
Looking for crabs	16.44	8.00	2.00	0.00
Feeding pigs	47.92	109.78	13.32	10.99
Cutting toddy	**414.25**	50.96	**386.24**	14.50
Cutting copra	**294.61**	**154.16**	**126.41**	0.00
Collecting coconuts	**157.14**	44.40	38.50	48.29
Cultivating taro	75.75	12.00	48.11	27.75
Gardening	39.0	10.04	*115.55*	53.35
Harvesting taro	46.31	0.25	29.60	119.35
Collecting fruit	30.58	11.22	33.75	4.55
Making canoes	0.00	1.50	4.50	0.00
Weaving mats	11.7	**260.19**	2.00	**215.40**
Making thatch	1.16	**78.25**	0.00	10.50
Making strings	0.00	39.46	0.00	12.75
Sewing	0.00	0.66	0.00	0.50
Making coconut oil	1.96	3.35	0.00	2.00
Making Tuae	11.01	48.63	-	-
Making Karababa	0.13	1.26	-	-
Making sweets	0.00	1.50	0.00	3.50
Baking bread	0.00	4.16	-	-
Boiling toddy	16.66	6.19	-	-
Fetching water	28.68	31.64	-	-
Collecting firewood	27.39	53.45	64.75	**144.74**
House construction	67.27	3.25	**131.55**	9.00
Making fence	56.00	7.00	0.50	0.00
Carrying stones	24.00	0.00	60.00	48.00
Cutting timber	13.25	3.50	11.00	1.50
Carrying Timber	2.00	0.00	-	-
Digging taro pits	16.00	0.00	-	-
Clearing bush	12.00	7.50	2.00	1.00
Making fish traps	**105.66**	0.00	-	-
Washing	2.33	46.46	6.25	**106.25**
Cleaning	19.03	**108.24**	8.06	61.26
Cooking	6.22	**139.34**	**116.00**	**319.19**
Boiling tea	0.68	23.99	0.00	1.00
Other activities	18.07	10.30	13.50	4.00

Source: Statistics Office 1996

Summary of Gender Roles in Kiribati

Activities, Access and Control	FEMALE			MALE		
	Adult	**Youth**	**Elder**	**Adult**	**Youth**	**Elder**
Crops						
Land preparation	x	x		xxx	xxx	xx
Planting food crops	xxx			xxx	xxx	
Planting export crops	xx	x		xxx	xxx	xx
Weeding/watering/spaying/fertilising	xxx	x		xxx	xxx	
Harvesting	xxx	x		xxx	xxx	
Carrying from plantation	xxx	x		xxx	xxx	
Marketing food crops	xxx	x		xxx		xx
Select site	xxx			xxx		
Control crop income	xx			xxx		xxx
Choose to give away & to whom	xxx		xxx	xxx		xxx
Fishing	**Adult**	**Youth**	**Elder**	**Adult**	**Youth**	**Elder**
Inshore fishing with hook & line	x			xxx	xxx	xx
Inshore spear fishing/netting	x			xxx	xxx	xx
Inshore reef/shallows gathering	xxx	x		xxx	xxx	xx
Fishing from canoe or motorised fishing boat				xxx	xxx	xxx
Marketing fresh fish	xxx			x		
Marketing cooked fish	xxx					
Own boat/canoe				xxx		xxx
Use boat/canoe				xxx	xxx	xxx
Own fishing gear				xxx	xxx	xxx
Use fishing gear				xxx	xxx	xxx
Control catch income	xx		xx	xxx	xx	xxx
Divide catch, choose to give away & to whom	xx		xxx	xx		xxx
Domestic	**Adult**	**Youth**	**Elder**	**Adult**	**Youth**	**Elder**
Cooking, washing, cleaning, infant care.	xxx	xxx	xxx	x	x	
Traditional cooking	xxx	xx	xxx	x	x	
Collect & carry fuel	xxx	x		xx	xx	
Collect & carry water	xxx			xx		
House-building, repair	x			xxx		
Handicraft using plant fibres	xxx	xx	xxx			
Handicraft: carrving, tools				xxx	xx	xxx
Clean, weed compound	xx	xxx				
Feed chicken, pigs	xxx	xx		xxx	xx	
Community Management	**Adult**	**Youth**	**Elder**	**Adult**	**Youth**	**Elder**
Public order						xxx
Church	xx	x	xx	xx	x	xxx
Public health	xx		xx			xxx
Water supply	xx		xx	xxx		xxx
Public works (seawall, road, etc.)	x			xxx	xx	xxx
School	x			xx		xxx

Key: XXX: very active/main responsibility XX: less active /subsidiary role X: occasional or seasonal role

Disaster Management

The chart below records what women and men said the local arrangements would be, if prior arrangements were in place – which did not seem to be the case. People were more certain as to who would have responsibility at the household level. At the community level the arrangements were more hypothetical.

	FEMALE			MALE		
	Adult	Youth	Elder	Adult	Youth	Elder
Risk perception and awareness	XXX	XXX	XXX	XXX	XXX	XXX
Knowledge on type, magnitude and impact of previous disasters	XXX	XXX	XXX	XXX	XXX	XXX
Food and emergency supply storage	XXX	XX	XXX			
Store water	XXX	XX	XXX		XX	
Trimming trees				XXX	XXX	XX
Identification of emergency routes						XXX
Identification/construction of emergency shelter						XXX
Provision for shelter	XXX			XXX		
Clean up compound (objects etc.)	XXX	XXX	XX	XXX	XXX	XX
Strengthen threatened structures				XXX	XXX	XXX
Develop warning systems at community level						XXX
Reception of disaster warning				XX		XXX
Secure family members	XXX			XXX		
Assist people in need	XXX	XXX	XXX	XXX	XXX	XXX
Secure/protect family belongings	XXX	XX	XXX	XX	XX	XX
Secure/protect house	XXX	XX	XX	XXX	XXX	XX
Secure emergency food, water etc.	XXX	XX	XX	XXX	XXX	XX
Authorise/initiate evacuation						XXX
Harvesting/protecting/securing crops	XXX	XX	XX	XXX	XXX	XX
Tracking of warnings/storms				XXX	XXX	XXX
Food preparation	XXX	XX	XXX			
Clean-up post disaster	XXX	XX	XX	XXX	XXX	XX
First damage and needs assessment				XX		XXX
Decision making						XXX
Supportive roles	XXX		XXX	XXX		
Management of emergency shelters						XXX
First aid	XXX	XX	XXX			
Asking government for relief						XXX
Identification of most needy						XXX
Distribution/allocation of emergency relief at village and household level						XXX
Asking for government recovery/reconstruction assistance				XX		XXX
Decision on recovery needs				XX		XXX
Identification of action				XX		XXX
Implementation of action:	XXX	XX	XX	XXX	XXX	XX
Site selection						XXX
Decision on building type & size				XX		XXX
Repairs & maintenance	XXX			XXX	XXX	
Management of water sources	XXX			XXX	XXX	XXX
Labour for constructing, repairing water supply, village roads, village sea wall	XX	XX	XX	XXX	XXX	XX

Key: XXX: very active/main responsibility XX: less active /subsidiary role X: occasional or seasonal role

5. Mainstreaming Women in Disaster Management Programmes

Disaster Management, Gender and Development

Development is the process by which vulnerabilities are reduced and capacities increased.[12]

Figure 1 illustrates how issues of development affect the vulnerability of households and communities to disaster. Some of these issues have been illustrated by situations described in the case study, for example the people living in the Lord Howe settlement are a powerless ethnic minority. In order to relieve population pressure on their remote atoll and to be able to send money and goods home, some want to live in Honiara. They cannot afford to buy land and freehold land is scarce even if they could afford to buy it. Solomon Islands is a poor country affected by many of the macro forces listed in Figure 1; one of the least-developed in the Pacific region, and is unable to cope with – or afford the solutions – to the complex problems of urbanisation, and the proliferation of vulnerable squatter settlements.

[12]Anderson & Woodrow, 1989:12

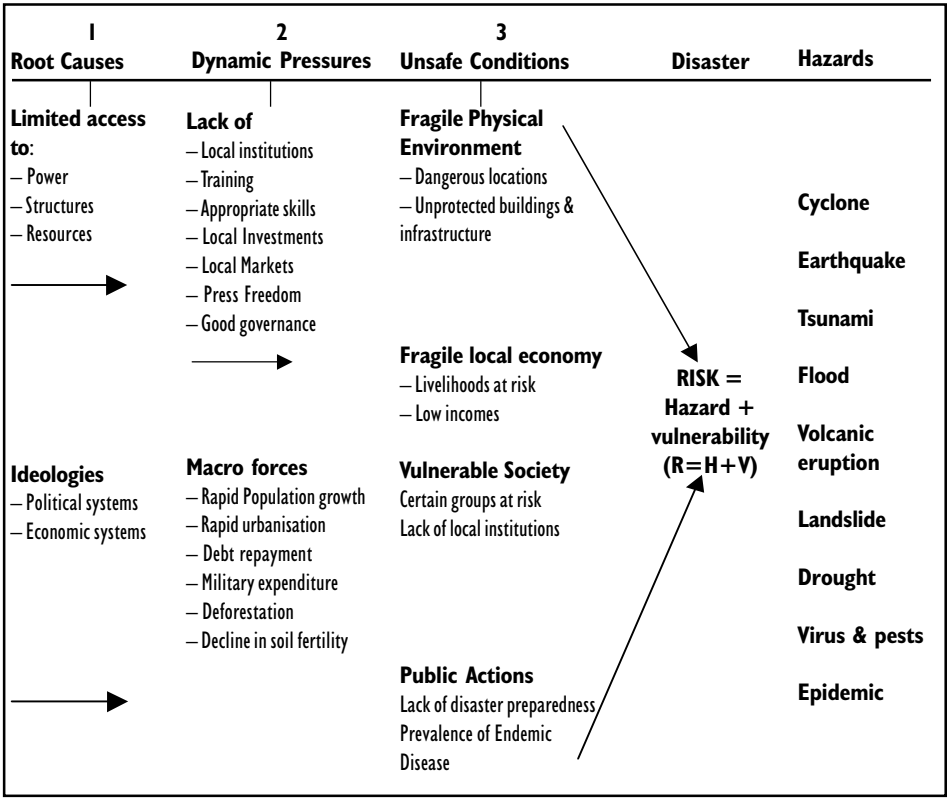

Figure 1. The Progression of Vulnerability.[13]

This analytical framework also summarised many of the issues which make South Tarawa so vulnerable. As an urban centre it attracts ever-increasing numbers of people, and efforts of government to create levels of services on the outer islands sufficient to deter urban migration do not appear very successful. Some elements of the model also apply to the people of Daku and Legalau who live in vulnerable locations because they offer the best prospects of making a livelihood. The high risk of floods is offset by the lack of an attractive economic alternative by relocating. To some extent the model can also be applied to Samoa. The immediate effects of natural disasters, cyclone Val and Ofa, were exacerbated by rapid social change. Samoans were no longer building traditional houses but houses of modern materials often to low standards of construction. Following the two cyclones, taro blight and

[13]Blaikie et.al., 1994: figure 2.1.

giant snail infestation devastated small agricultural industries, which could be related to inadequate quarantine procedures.

A further issue is that in the past Pacific Island communities had to cope without assistance, which encouraged many practices which have been forgotten or abandoned. For example the Samoans used, routinely, to plant yams on high grounds as emergency food (yams can be left to grow for long periods and, when harvested, will keep longer than another food crop).[14] They also preserved breadfruit in pits as an emergency food supply. These practices have been abandoned not merely from aid dependency and a sense of complacency that the outside world will come to their assistance, but because Samoa is now a truly globalised society. At least as many of its people are living in New Zealand, Australia, the US and elsewhere, as in Samoa. As in Tonga and a number of other small island states, Samoan families have rightly been described as "transnational corporations of kin" who see their villages as the centre of an international network of support.

The situation is somewhat similar in Fiji, but much less so in Solomon Islands and Kiribati where rural communities still practice disaster preparedness measures. For example in Legalau, women said they still plant varieties of banana, and swamp taro, which will thrive and multiply without assistance, and can be used as a reserve food supply when more favoured foods become unavailable. Outer Islanders in Kiribati still preserve food (for example dried fish, dried pandanus fruit, and toddy boiled to a syrup). These communities have less expectation that they will receive immediate relief in the case of a disaster. As the DMO for Solomon islands observed, the remote communities are the most likely to maintain survival practices. Paradoxically, the more "developed" island communities become, and the more integrated into the international economic system, the more dependent they become on immediate disaster relief.

[14]Maka Sapolu, Director General, Samoa Red Cross.

Gender Inequality and Vulnerability

The progression of vulnerability model can also illustrate why gender inequity can contribute to vulnerability. The case studies shows that both men and women consider women to be responsible for the physical well being of their families; and the management of households. Yet as summarised in Figure 2 women's lesser social power increased household vulnerability to disaster.

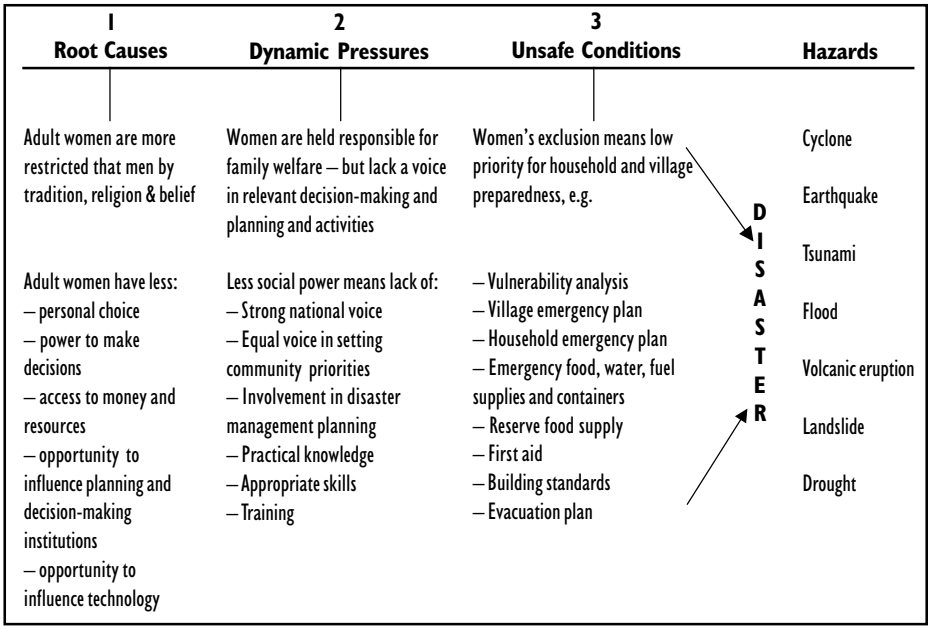

Figure 2. Gender Inequity and the progression of vulnerability.

When men and women are formally asked "who makes decisions about the use of household resources, such as labour allocation, goods and money?", men are most likely to say that decisions are made by the (male) head of the household. Women, in contrast, are most likely to say that husbands and wives "make decisions together". In reality, who makes decisions will vary depending on the nature of the matter to be decided, the personalities involved, the determination and the personal resources of the individuals concerned and many other factors. Women can and do successfully influence decision making. However in general, if women's priorities are

different from those of their menfolk, their priorities are less likely to prevail because they have less social and economic power.

The case studies point to the importance of involving women in decision making for disaster preparedness, particularly in improving preparedness at the household and community level. While most women knew that when a disaster warning is heard it is necessary to store food, fuel and water. But when it came to the practicalities of how would enough of these commodities be obtained to last a week or two, where and how they could be safely stored, and how household possessions could be best secured, there were few answers. Knowledge of health risks and how to deal with them seemed low. It seemed extraordinary that people in Kiribati could die of dysentery, as they had in the recent epidemic, given the simple and inexpensive treatment of oral rehydration therapy. The mixture can be made at home if health centres lack the prepared salts; but few people seem to have heard of the treatment.

The practicalities of wider issues seemed to have been given little thought, except perhaps in Daku village, Fiji. There were many unresolved needs such as an effective water supply or reserve water supply (in all the villages studied there were astonishingly few rainwater catchments, despite suitable roofs on churches, community centres and some houses). Other issues included the need – or otherwise – for seawalls; whether men knew secure-building techniques, and how to promote the planting of reserve food crops. Then there was the question of whether churches could be used as a shelter, since they are the largest and most elaborate buildings in many villages, could they be reinforced for this purpose? Would congregations accept the use of their churches as shelters?

Mainstreaming women in disaster management

In order to empower women and raise awareness of why both women and men should learn and make plans to apply more *practical* measures for disaster preparedness, both must have equal access to training and equal roles in the planning processes of disaster management.

A. At the household level:

Men must be encouraged to recognise the need, and to support shared decision making on disaster preparedness with women. The case studies show that when disaster strikes, everyone does what must be done according to their physical capacity, irrespective of their sex. Both men and women need to improve their capacity to make practical, locally-relevant plans to ensure safety standards for house building; and that emergency supplies of food, water and fuel can be stored and quickly obtained.

Tactics for National Disaster management agencies:

- Run a short course for professional women and men working at the district and village level (nurses, teachers, church ministers and their wives, local-government officials, and agricultural extension agents) on disaster management and basic methods of gender analysis and rapid rural appraisal. Commission them to carry out an assessment of household disaster preparedness in a representative selection of local communities.

- Run a similar short course for the staff of urban authorities, and selected tertiary students on disaster management and survey methods. Involve statistics department staff. Carry out a survey to assess disaster preparedness in a sample of households from different income groups.

- Disaster management specialists can use this material to improve public knowledge; for example by preparing and distributing nationally-relevant pamphlets backed up by radio (or TV) programmes on practical disaster-preparedness activities for households emphasising the importance of women's roles as well as those of men.

B. At the community level

Women and men must both take part in community disaster-management planning. A community plan is to assess the risk of disaster; to agree on knowledge, skills and actions needed for preparation; and to decide what can be done locally, and what, if any, external help is needed.

Tactics for National Disaster management agencies:

- Invite women's groups, youth groups, and men's groups or councils to spend half a day discussing what should be included in village or neighbourhood disaster-management plans.

- Review their ideas for feasibility, then run a short workshop with the three groups together to put their ideas together and develop the plan.

- Invite the village council or urban council to institutionalise aspects of the plan in local bylaws.

- Outline the plan in a laminated poster. Distribute copies to the women's, youth and men's groups, for further discussion and learning implementation.

- Review and update the plan every two years using the same approach.

C. At the National Level

Just as men as well as women should be targeted for the improvement of household preparedness, the household and community should not be the limit of women's involvement in disaster management. At the national level, women's involvement is essential for social mobilisation. national disaster management committees (NDC) must include senior-level representation from national women's organisations, both government and NGOs. They should increase emphasis on prevention and preparedness, rather than seeing their role in relation to relief and reconstruction.

Tactics for National Disaster management agencies:

- Organise a short course for the NDC on the need for households and community disaster preparedness, and social-mobilisation techniques.

- Organise the funding and resources for disaster-preparedness training, planning and dissemination of information for households and communities.

6. Gender Planning Tools for Programme Planners and Managers

Key Principles

- Gather information from women and men separately
- Involve women in data collection
- Disaggregate data by sex and age
- Disaggregate data by social rank if this is culturally significant
- In urban areas where there are major differences in people's socio-economic status, disagregate data by socio-economic categories; e.g. low, medium, high incomes

Gender Analysis

The integration of a gender perspective into disaster preparedness involves a four-stage cycle (Figure 3):

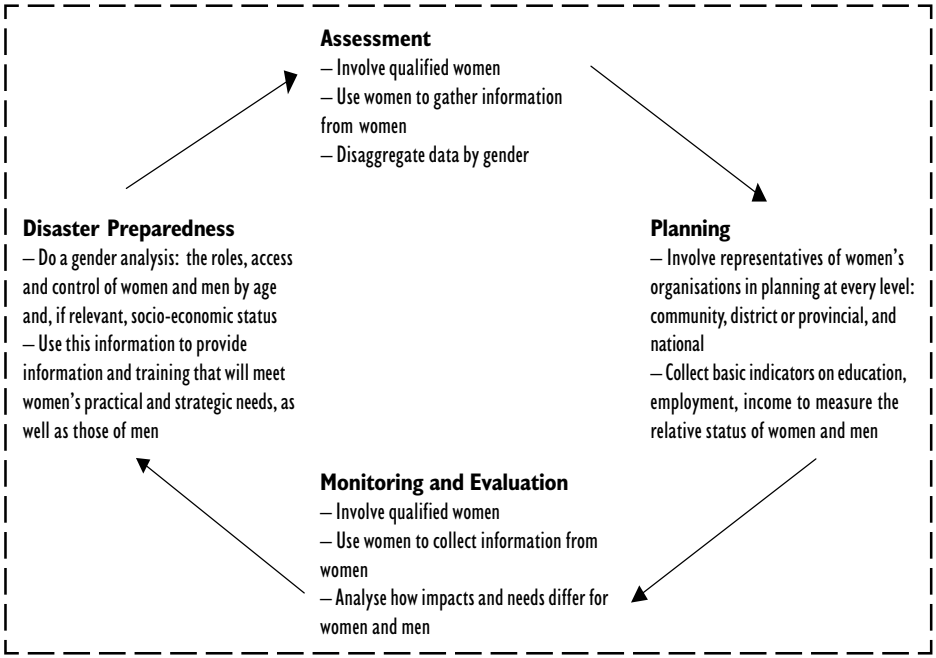

Figure 3. Four-stage cycle of the integration of the gender perspective into disaster preparedness.

Questions for gender analysis might include the following:

A. What are the roles of men and women (by age, and if relevant, traditional rank)?

- In providing and repairing housing and shelter
- In producing, processing, storing and managing food
- In collecting, storing, and managing water
- In collecting or buying, storing and managing fuel

B. What obstacles exist and improvements are required to reduce the vulnerability of households?

- To store reserve supplies of food, water and fuel
- To strengthen houses and outbuildings
- To locate dwellings in the safest possible locations

- To enable people to understand risks and how to reduce vulnerability
- To enable the community to recognise who the most vulnerable people and households are

C. What decision-making powers do people have and what matters may they decide?

- Male and female elders
- Wives and husbands
- Young men and young women
- Youth groups
- Women's associations and men's associations
- Village church committees
- Village governing councils

D. What improvements are needed in decision-making processes to reduce vulnerability to disaster?

- At household level
- At community level

E. Are there obstacles to women's involvement in decision making in relation to disaster-reduction planning and activities?

- Lack of knowledge among women
- Beliefs that only men should make decisions
- Women's exclusion from formal public meetings
- Weak- or poorly-attended women's associations

F. What measures are needed to reduce these obstacles to women's involvement?

- Dissemination of information on risk
- Community participation in making a risk assessment
- Training activities on disaster preparedness
- Institution building for women's associations
- Raising men's awareness of the need to include women

Anderson & Woodrow's (1989) gender disaggregation matrix for disaster management (Figure 4) is a useful tool for analysing the situation of men and women in a community. It can be used at various levels, for households, villages, districts or provinces, and at the national level as well.

	VULNERABILITIES		CAPACITIES	
	Women	*Men*	*Women*	*Men*
Physical/Material What productive resources, skills and hazards exist?				
Social/Organisational What are the relations and organisation among people?				
Motivational/Attitudinal How does the community view its ability to create change?				

Figure 4. Capacities and Vulnerabilities Gender Analysis Matrix.

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