

SOPAC

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Pacific Region*

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Report of Workshop to Develop a Water
Strategy for Fiji

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Abbreviations

| | |
|-------|---|
| ADB | Asian Development Bank |
| DSC | Development Sub-Committee of CEOs, Fiji |
| ESCAP | Economic and Social Commission for Asia and the Pacific |
| EU | European Union |
| GEF | Global Environment Facility |
| MRD | Mineral Resources Department |
| NLTB | National Land Trust Board |
| PfWG | Programme for Water Governance |
| PWD | Public Works Department |
| SOPAC | South Pacific Applied Geoscience Commission |
| UNDP | United Nations Development Program |

1 Workshop to Develop a Water Strategy for Fiji

A workshop was held on Tuesday 13th and Wednesday 14th December 2005 at the Tanoa Plaza Hotel, Suva to develop a water strategy for Fiji. The workshop was organised by the Mineral Resources Department of Fiji (MRD) and attended almost exclusively by officials from departments, offices and ministries of the Government of Fiji.

MRD was assisted by SOPAC and an international water management consultant, Mr Paul Taylor, funded by the European Union's Pacific Programme for Water Governance (PFWG). The workshop was the first major activity identified in the initial report of the consultant (September 2005) under the assistance to be given by the pilot PFWG pilot project for Fiji, which focuses on water governance at the national level.

The Workshop to Develop a Water Strategy for Fiji is to be followed in 2006 by a further workshop on water legislation. In the meantime, MRD and the National Water Committee of Fiji intend to develop the water strategy proposals for consideration by Cabinet.

2 Context of the workshop

In September 2005, during the initial visit to Fiji, the international consultant discussed the PFWG with the National Water Committee and also participated in deliberations about the national water policy. At that meeting, the Committee decided to develop a brief water policy document to include principles and goals for water resources management and some indications of the Government's further intentions. The Committee developed a draft which was approved by Cabinet for consultation and final approval early in 2006. It is MRD's responsibility to organise the consultation.

The draft policy document was used during the workshop to indicate to participants the direction that Cabinet was considering. Importantly, the policy document includes several statements of intention that should be followed up by the Government if the final version is not altered. These are to:

- investigate the need for water legislation which deals with water allocation for all types of water use and clarifies the rights of water users and land owners;
- take the following institutional initiatives:
 - Establish a national water coordinating body with secretariat support, and
 - Assign responsibility for water resources management within the administration;
- improve public understanding about water and its management;
- identify present and future information needs for water management at national level and ensure that responsibility for data is clearly allocated.

The Fiji Government had already included in its national corporate plan the development of water legislation.

These statements of intent helped to guide discussion among participants at the workshop.

3 Workshop Design and Concept

3.1 Objectives and Outcomes

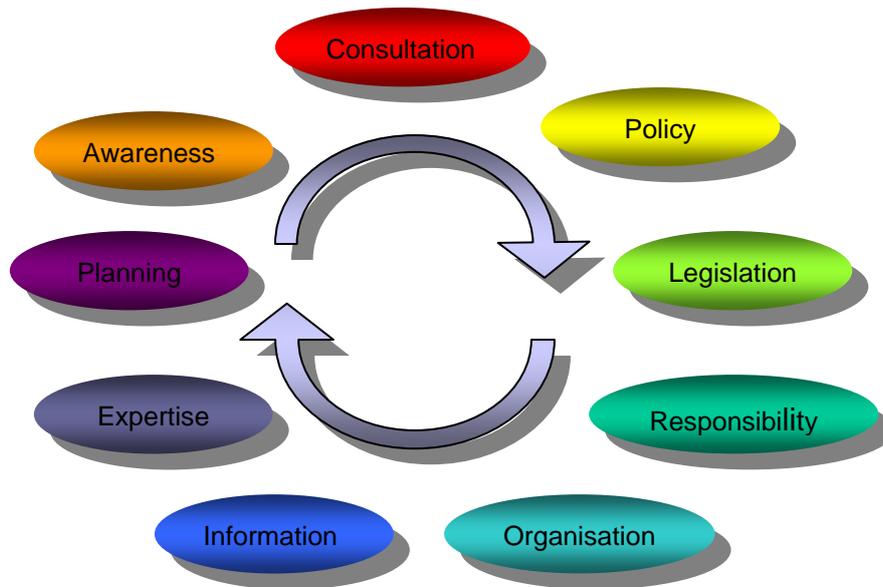
The stated workshop objectives and outcomes for the workshop were:

| Objectives |
|---|
| <ul style="list-style-type: none">• To identify the current status of water management in Fiji• To highlight and discuss the key issues for water management in Fiji• To develop and agree on the strategy for improving water governance |

| Outcomes |
|---|
| <ul style="list-style-type: none">• A strategy for strengthening of water resources management in Fiji• Elements of the strategy to include:<ol style="list-style-type: none">1. Legislation required2. Further development of policy3. National coordination4. Clarification of responsibilities within the government5. Water resources planning6. Water resources information7. Capacity building8. Public awareness and education |

3.2 Water governance building blocks

The eight *elements* listed in the outcomes were developed as *building blocks* to assist thinking on the development of water governance arrangements. The concept was promoted that all elements need to be developed in parallel – like the links in a chain – in order for water management to be successful. That is, if one element is not in place, the others will be weak and will fail to be effective.



Discussion of the water strategy revolved around these elements, as demonstrated in the programme and discussion.

3.3 Workshop programme and design

The first day of the workshop was devoted mainly to presentations from the representatives of participating organisations, whose task was to discuss:

- the current and likely future challenges in water services and management facing their organisations;
- the measures or changes they would like to see in order to help overcome the challenges.

The second day was devoted to discussion by participants about the eight elements and what actions should be taken in each case. The outcomes of the discussion are summarised below.

4 Issues arising from the workshop

A number of issues are outlined because of their particular importance.

4.1 Need to consider small island water management

Concern was raised that very different water resource conditions apply on the large island and on small islands of Fiji. While alternative sources of water can be developed or accessed on the large islands, small islands that rely on groundwater and rainfall or rainfall only have few or no alternative water sources in circumstances of low rainfall or drought. For this reason, attention should be drawn to the needs to small islands for two reasons. Firstly, the approach to water supply and management needs to differ from the approaches commonly used in the large islands. Secondly explicit attention needs to be paid to small island water issues so that their needs are not forgotten. A proposal for the national water policy draft will be made to address this matter.

4.2 Reform of water services and water management to proceed in tandem

The programme to commercialise the Water Supply and Sewerage Division of the Public Works Department raises a number of issues for water resources management. Water Supply and Sewerage Division is to be converted into a Commercial Statutory Authority (CSA), which requires the regulatory framework for public water supply and sanitation to be better defined. Legislative change will be required to establish relevant aspects of the CSA (meeting with Ministry for Public Enterprise and Public Sector Reform) and an appropriate regulatory environment needs to be applied or developed.

There was discussion of the service-related regulation requirements for the water and sewerage CSA, such as price determination (Commerce Commission), service standards (to be decided), drinking water quality (Ministry of Health?) and consumer rights matters (Commerce and Consumer xx). Additionally, two issues of regulation and management arise, namely water allocation and control of protected catchments. The water resources management strategy is to make proposals for a water allocation scheme covering access to surface water and groundwater.

4.3 Key policy links with freshwater

In two specific areas, the workshop supported the development of strong links between water resources policy and management and the management of related natural resources.

4.3.1 Freshwater and coastal waters

The key impact of freshwater and its management on marine waters is on water quality, mainly but not exclusively via river outflows. Given the importance to Fiji of its coastal zone, it is important to ensure that rivers and coastal outflows do not harm

marine ecosystems, coral reefs and other fauna and flora. Worldwide, integrated coastal zone management (ICZM) is increasingly receiving attention, but explicit legal and management responsibilities for coastal waters are not commonly assigned. While it is not proposed that a water resources management responsibility in government should be actively responsible for coastal waters as such, it was agreed that decisions about freshwater management should be explicitly required to take into account whether an impact would occur to the marine environment and its resources.

4.3.2 Water and catchment management

Fiji recently approved a catchment policy which, however, concentrates mainly on land-based resources – soils, vegetation, forest resources. Catchment degradation was considered to be a problem in Fiji, and there was a strong view that the links between water management and catchment management should be effective.

5 The critical water policy issue – water and native land

It was clear from workshop presentations and discussion that the rights of native land owners in regard to water are the most sensitive and at the same time the most important policy issue facing Fiji. There is an inherent conflict between the desire of owners of native land to obtain a formal right to water resources on the one hand and the need to manage water resources on the basis of the hydrologic unit (river basin and sub-basin, aquifer) on the other hand.

There is an expectation in some quarters that the Government will grant or recognise a land ownership to water that will enable land owners to rent water access to others. The current legal situation is that the Government (ie the State, formerly the Crown) controls surface water resources to the navigable limit for a native canoe (to where streams are around 1.5m in depth). Elsewhere, native activities are unfettered. The law is silent on the right to groundwater.

This issue has to be resolved in such a way that water management principles and objectives as set out in the draft national water policy can be attained.

A number of participants stated the need to resolve the 'ownership' of water. However, from a water resources management perspective, it is important to understand that water resources in nature may not necessarily be 'owned' in the same manner as real property and land. If such a right of water *ownership* is granted or legislated for, Fiji will face difficulties in water management, the protection of downstream water users and other interests, the environment and investment in water using developments.

Public utility water access might also face problems. Currently, urban water supply is a government organised activity. The programme to commercialise the Public Works Departments water utility functions will place water supply and sanitation on a quasi-commercial basis and in the future it will be driven more by costs and revenues than in the past. Changes in this direction could be perceived by land owners as placing the water services in the commercial category, with attendant attempts by them to obtain water fees.

The right to water is a critical matter first for policy and secondly for legislation. Resolution of this matter in a way that allows the future benefits of water to extent to all of society will be a critical test for water management in Fiji in the long term.

6 Presentation of issues

6.1 Keynote speech

The keynote speech introducing the workshop was given by the Minister for Lands and Natural Resources, the Hon ##. His theme was *preparing for tomorrow today*. Points he made were:

- The need for a water resources strategy is becoming more evident;
- Because water management is not a simple sectoral matter, it requires careful deliberation;
- With increasing water exploitation better knowledge and understanding of the water resources is required;
- MRD has been given responsibility for water policy at present, but further work is required on legislation and developing a national coordination mechanism for Fiji;
- The amendments to the mining legislation are interim in nature. Law needs to cover both surface water and groundwater and a legal basis is needed to give confidence to investors who want to use water;
- Delegates were asked to consider how to develop A practical and affordable water management regime which achieves the goals stated earlier.

6.2 Participant presentations

Eleven agencies made presentations on the water management and governance Issues facing them. These are outlined in more detail in Appendix ##. The main point raised were:

- The impact of dry conditions and drought, and the need for a more scientific basis for defining drought and better procedures for declaring drought (NDMO);
- The introduction of risk management to local water supply arrangements, with proper use of rainwater harvesting;
- Concern about international companies exporting water from Fiji – need to protect local communities from water export: water should be regarded a part of land and therefore the property of the land owner (NDMO,
- Difficulties in obtaining real-time data for flood warning – physical geography of Fiji means that flood flow reaches coastal areas very quickly (NDMO, Agriculture);
- Need for hierarchy or priority system for types of water user, to protect high value uses and essential uses (eg urban and domestic water supply) ((PWD);
- Need for unencumbered access to water for all types of use and rules for water abstraction where necessary, coordinated management of water users (PWD);
- Rules should also apply to sewage and other wastewater returns (PWD);

- Concern about how to value the loss of benefit to local people in cases of catchment inundation and protection (PWD);
- The two general water rights options are (i) for the State to control all water resources (recommended) and (ii) the State and land owners to enter into a partnership on water rights (PWD);
- Concern about the perception that a CSA is a commercial entity that will act to the disadvantage of local people (PWD);
- Current operation of water and sewerage services is costing the Government \$12 million annually (under-recovery of costs);
- Responsibility for determining drought conditions not clear (FMS);
- In Fiji a gradual trend to warming (day and night time temperatures) is shown in the past 15 years on top of el nino (ENSO) effects implies worsening of dry spells and water scarcity;
- Increasing floods due to deposition of silt in lower reaches of rivers, which in turn is caused by catchment degradation (Agriculture);
- Lack of policy recognising the value of water as a resources or ensuring that it is managed sustainably (Agriculture);
- Need to avoid unplanned developments on fertile soils (Agriculture);
- Flood and drought response plans are needed – no clear responsibility for flood management (Agriculture);
- Water resources data is scattered, incomplete and there are problems with data access and exchange (Agriculture);
- Responsibility for national hydrology (now with PWD) should be transferred to Agriculture (note that PWD disagrees);
- Water needs to be integrated with land and catchment management policy (Agriculture);
- Legislation dealing with land management lacks teeth: however, even where legislation and codes exist (eg forestry) a combination of illegal activity plus little capacity or willingness to regulate allows unsuitable activities to continue (PWD, Agriculture);
- The catchment management framework will include watershed management and monitoring plans (although to what extent these will lead to improvement in activities is not clear) (Agriculture);
- Enforcement mechanisms for land management are ineffective (eg small fines, need for court injunctions which are time-consuming and slow, developers may breach EIA guidelines but cannot be prosecuted by Town and Country Planning) (Agriculture, Town and Country Planning, PWD);
- MRD is the *de facto* manager of groundwater which can be extracted without approval anywhere (MRD);
- Drilling standards are required to safeguard bore and bore water quality (for drinking water) (MRD);
- There is also a need for *buffer zones* to protect groundwater quality – raises issues of land use (MRD);
- The hydrology division of PWD used to be the national provider of hydrologic information in Fiji but recently due to budget restrictions has only collected data relevant to PWD and the Fiji Energy Authority (FEA) (PWD);
- The National Land Trust Board (NLTB) has developed a policy position as follows:

- Water taken from native land should be subject to royalties;
- NLTB should be the licensing authority for relevant (native land-based) water uses;
- The Government should clarify that native landowners also own water resources
- For commercial exploitation of freshwater (including groundwater) on native land, special service leases should be issued;
- The Town and Country Planning Act only applies in nominated urban areas (Town and Country Planning);
- The only guidelines for development adjacent to water bodies are those in the *Rivers and Streams Act*, (ie 6 metres of a river and 30 metres from a foreshore);
- The law in Fiji lacks various provisions which are needed and it is important to identify whether legislation applies in villages under the current constitution (Solicitor-General);
- Need to review other country legislation (eg New Zealand, Australia) in developing legislation for Fiji (Solicitor-General);
- The Environment Management Act (EMA) is not yet in force as regulations are required; it will have powerful controls on wastewater discharge to water bodies, but staff resources are minimal (Environment);
- The EMA provides for a National Environmental Council composed of CEOs, but noted that CEOs frequently do not attend such bodies themselves due to their heavy commitments;
- Legislation on water should state that technical advice must be taken into consideration when administrative decisions are being made – to prevent such advice from being ignored;

7 Outcomes of discussion

The second day of the workshop was devoted to discussion of the eight water governance elements in the programme. The outcomes of discussion on each of these elements is shown below, along with the matters commonly agreed and relevant recommendations. The recommendations were not formally adopted by workshop participants but are the workshop organisers' view of the consensus that emerged. The recommendations will be for further discussion as part of the water strategy document in due course.

One element of water governance not discussed in detail is consultation and participation in decision-making. This is a very important issue for water management, as water affects all levels of society. The reason for not including it as a specific topic of discussion was firstly that it requires special consideration and time did not allow adequate deliberation, and secondly the focus was on national arrangements.

There remains the question whether new mechanisms are needed for consultation on, or participation in, water management decision-making. The answer depends partly on decisions yet to be made on legislation and administration and the mechanisms developed for water allocation. The workshop made general suggestions on these matters without going into detail on the design. The first draft water strategy document will provide greater detail in its suggestions for legislation and administration, including the national water coordination body.

7.1 Water policy

7.1.1 Questions on water policy

The workshop was asked to consider the consultation draft National Water Policy and specifically to address the following questions:

Table 1: Questions on water policy

| | |
|----|--|
| 1. | Are there important policy issues not covered by current policy, including the draft policy statement approved for consultation by Cabinet? |
| 2. | Is clarification or greater detail needed in some areas? If so, what areas? |
| 3. | Is there a need to resolve the policy issue through: <ul style="list-style-type: none">• Public debate?• Consultation with key stakeholders? |
| 4. | Should policy links be established between freshwater management and: <ul style="list-style-type: none">• Land-based catchment management?• Quality of coastal waters?• Condition of the coastal zone? |

7.1.2 Policy issues not dealt with or requiring clarification

Policy issues considered to require further clarification were:

| | |
|----|---|
| 1 | Flooding and flood management |
| 2 | Dredging in rivers and river bed mining (believed to be inadequately covered in the EMA and Mineral Act) |
| 3 | Boundaries of law – the extent to which legislation does not extend to Fijian village activities |
| 4 | The social obligation of the Government to provide for the population and to alleviate poverty |
| 5 | Groundwater resource controls (regulations and operational aspects) |
| 6 | Harmonisation of legislation in general |
| 7 | Link between water management and the management of coastal waters |
| 8 | Need to allow access over land to water sources |
| 9 | Water rights and <i>ownership</i> Note that ownership of water was distinguished from the right to take and use water. (fair returns to owners) |
| 10 | River-ways design (streamlining of rivers/streams/waterways) |
| 11 | Excavation and water-bodies. |
| 12 | MRD currently will be the Licensing Authority for Groundwater under the Mineral Bill - in areas that are declared (Protected Areas). |
| 13 | Regulation of drilling activities and standards (to ensure safe drinking water supply and adequately installed infrastructure) |

Note that the workshop did not raise policy issues directly connected with water services, such as cost-recovery and long-term financial sustainability, nor was the polluter pays principle raised (although this principle is to some extent facilitated by the Environment Management Act). Water conservation was raised as a community consultation and education issue in a separate section.

7.1.3 Policy links and consultation

Workshop participants were consistently of the view that both land-based catchment management policy and policy on coastal water protection and management should be linked with freshwater management. Other links raised included water-related health issues. It was also clear that water services and water management policies (and legislation) need to be adequately linked.

There were differing views as to whether some policy issues required public debate or whether consultation with stakeholder representatives would be acceptable. Two groups considered that stakeholder consultations would be satisfactory, but the third group considered that public awareness and discussion should be undertaken on important issues.

7.1.4 Recommendations on policy

Water rights and the ‘ownership’ of water are the key policy issues requiring clarification. The current legal position remains that the State, and the Government on its behalf, is the legal possessor of the water resources of the Fiji Islands. However, clarification in more detail of the rights of native landowners and others, including water users, is recommended.

Policy issues not currently addressed and which should be addressed are:

- water rights and obligations, including the notion of ownership of water, with emphasis on the rights of native land owners in Fiji – namely what should their rights be and how should they be organised and managed?
- the extent of and nature of control over various types of water use and the infrastructure developed to take water from underground and surface water sources,
- the unified management of water resources to provide a consistent approach to exploitation and water sharing, within sustainable limits,
- water demand management, and developing a culture of water saving, promoting the importance of water resources
- small island vulnerability and planning consistently for all-source water supplies (groundwater, rainwater) for drought-proofing,
- flood management (as distinct from flood warning),
- excavation in water bodies such as river beds, banks and foreshores and measures to protect and improve the condition of river channels,

7.2 Water legislation

7.2.1 Questions on water legislation

The workshop was asked to consider what should be the role of new or amended legislation in achieving future water management goals for Fiji. Workshop participants were asked the following questions:

Table 2: Questions on water legislation

| | |
|----|--|
| 1. | Are there matters not covered in any legislation, but which should be covered? |
| 2. | Is clarification or greater detail needed in areas of law already in force? |
| 3. | Are there matters in existing law which need to be linked with future water legislation? |
| 4. | In considering 1-3 above, indicate whether legal changes would be preferable: <ul style="list-style-type: none">• To existing laws• Through a new water law• Through other new legislation |

7.2.2 Workshop views and discussion

Legislative issues of concern to the workshop were in several categories. Firstly, on water resources rights and control:

- Ownership and definition of rights and responsibilities for water resources in Fiji,
- Control of the exploitation of water for commercial uses,
- Control of groundwater extraction in general,
- The need for unified management of water resources in place of the current situation where various ministries or agencies dispose of water for their purposes but do so in relative isolation.

Clarification was considered necessary in several areas:

- The allocation of water for various purposes (closely linked to earlier issues),
- Consolidation (and if necessary amplification) of legal provisions governing the right to water, and the determination in the future of the rights,
- Control of excavation and other activities which may affect the condition of water bodies, such as river beds, banks and foreshores (ie to develop a consistent environmental and natural resource protection regime),
- Flooding (although details were not specified)
- Water allocation and the regulatory control of water resources in general

On the question whether matters already existing in law should be linked to any future water law, the workshop identified:

- measures to prevent and remedy man-made disasters such as spillages and leakages, which are already covered to some extent in the Environment Management Act, and
- negligence and public health issues,

7.2.3 Recommendations on legislation

the workshop agreed that a new water law is needed, which will provide a unified management framework for the control, allocation and some aspects of protection of the naturally-occurring water resources of the Fiji Islands. This is a separate responsibility from water supply, sanitation and other water uses. The workshop did not consider that amendment of existing laws alone would be sufficient to achieve such a management regime, although it was agreed that some immediate changes are warranted, but these should be interim measures only.

Specifically, the workshop agreed that:

- current legal changes (to the Mineral Act) should be considered as interim only,
- a comprehensive water law should be introduced,
- the new water law should deal with water rights, the allocation of water for all uses and necessary measures to protect the quality of water (to the extent not already covered in the Environment Management Act and other legislation),
- the reform of water utilities (water supply and sanitation) should be closely linked with legislation dealing with water allocation and related regulatory aspects of providing essential water services.

7.3 .Water resources and national coordination

7.3.1 Questions on national coordination

The workshop was asked to consider national level coordination for water the management of water resources. [Note that coordination for water resources at other levels and in other spheres is important, but the workshop needed to concentrate on the national level]. In answering this question, workshop participants needed to consider whether a permanent body would be required or alternatively whether coordination could be achieved by establishing lesser ad hoc arrangements.

The answer to this question, as explained to the workshop, would depend upon the following:

1. the precise responsibilities of any such body and therefore,
2. the membership, and
3. whether such a body would be need to be advisory only or should exercise any form of decision-making or approval.

A second important issue was whether such a body should deal only with the management of naturally occurring water resources (allocation, protection) or should also deal with the provision of essential services such as water supply and sanitation.

Further, the workshop was asked to consider whether any national coordinating body would require a secretariat or permanent

Specific questions asked of workshop participants were:

Table 3: Questions on national coordination

| | |
|---|--|
| 1 | Is a permanent high-level national water coordination body warranted in Fiji? In answering this question, please consider the following |
| 2 | Possible functions and tasks: <ul style="list-style-type: none">• Advise the government on water resources issues of national importance• Oversee a process of water reform• Advise on national or regional or issue-based water management measures and plans• Approve such plans• Make proposals on policy and water management initiatives• Review water information and report to the government on progress• Review the performance of water organisations and report on progress• Review and approve such matters as water management fees and charges• Review certain matters by the water management agencies before they are approved |
| 3 | Based on the above, should a coordinating body be advisory only or also have statutory powers (ie approval of specified matters) |

| | |
|---|--|
| 4 | <p>Should a national coordinating body deal with water services as well as water management matters?</p> <ul style="list-style-type: none"> • Matters in general or as referred by the Government • Some aspects only – please indicate |
| 5 | <p>Membership issues. Should the body be composed of</p> <ul style="list-style-type: none"> • Members at a 'high level' with political influence? • Government members only, or non-government members also |
| 6 | <p>Possible types of member:</p> <ul style="list-style-type: none"> • Ministry representatives • Representatives of departments and government organisations • Key stakeholders (via government bodies or directly) • Private sector (water users, commerce, industry, agriculture, tourism, other) • Community representatives: <ul style="list-style-type: none"> ○ Regional/territory-based ○ Community interest (eg domestic water users, catchment management, fisheries, etc) • Academic and other representatives chosen for their expertise |
| 7 | <p>Is a permanent secretariat or office warranted?</p> <p>Should such a body have other functions also (eg some water management responsibilities)?</p> |

It should be noted that the questions on national coordination were extensive would ideally have required more time to consider than was available in this workshop.

7.3.2 Workshop views and discussion

There were two views on whether a coordination body should deal with both water resources management and water utility management and regulatory issues. The national coordination of water resources was considered in the context of a regulatory regime for water utilities, which would include utility pricing, service standards and corporate governance. Some participants considered these to be separate responsibilities which should be separately coordinated. However, the wish to prevent a proliferation of coordinating bodies was also important. It was understood that water allocation would affect utilities' access to water and that this would be important in the future, if not already an issue for commercial statutory authorities and that on this question there needed to be coordination between utility management and the management of water resources.

There was strong support for the creation of a national coordination body, and the view that the current National Water Committee (NWC) was useful but needed to be bolstered or a more influential and widely representative body was required (the NWC is composed entirely of government officials plus a representative of the NLTB). Despite the creation under the EMA of a National Environment Council, the workshop considered that a water council of board was needed.

On the important question of the functions or duties of a national water coordinating committee council or board, the workshop did not give clear advice, but tended to agree with the list of possible duties provided to the workshop. These include the

approval of water plans, for instance (see Table 3). Although functions of a decision-making and approval nature were endorsed by the workshop, their appropriateness should be considered further.

The workshop did not favour a membership similar to that of the National Environment Council which is composed of CEOs unless there is an arrangement to ensure that specific substitutes are approved. Broader membership including key water user groups and other water stakeholders was discussed. There was support for non-government membership to represent stakeholders, although some participants were considering the council as an internal government arrangement.

There was also discussion of the desirability of having a high-level council/board to provide direct advice to the government but to retain a more technically oriented group such as the current National Water Committee to provide input to the council.

On the need for a secretariat there was strong support, based on the view that progress would be impossible without resources. This is seen as a limitation for the current National Water Committee.

7.3.3 Recommendations on national coordination

Matters on which the workshop was agreed and gave strong support are:

- a permanent national coordinating body in the form of a council or board is needed at a higher or more influential level than the current National Water Committee,
- a secretariat or equivalent resources needs to be devoted to support the council/board.

Matters on which there was general support from workshop participants are:

- the coordinating body should include both government and non-government members, including representatives of major water stakeholders in Fiji, and possibly members with expertise in water fields,
- membership should include water utilities or their representatives as well as government agencies responsible for managing water resources,
- the need for a technical advisory group to support the council or board.

Matters not clearly resolved were:

- the range of duties that should be assigned to the council or board,
- whether the council or board should be advising the government on water utility issues as well as water resource management issues,
- whether the council or board should have executive power (approval of plans or other decision-making power) or should be advisory only,
- whether it is necessary to create the council or board by statute (ie in a future water law) or administratively.

7.4 Administrative responsibility for water resources

7.4.1 Questions on administration

The key issue before the workshop was whether it was necessary for the government to assign responsibility for water resource management as a whole to a particular agency. This was strongly supported. It was noted that MRD has become the *de facto* groundwater management agency, in the absence of specific legislation, and that this role is being promoted by the amendments being made to the Mineral Act. There is no equivalent agency responsibility for surface water.

Table 4: Questions on administration

| | |
|---|--|
| 1 | What are the key tasks for a water management agency? |
| 2 | Will there be conflicts or potential overlap with other agencies, requiring careful definition of responsibility and coordination? |
| 3 | What should be the relationship between any national coordinating body and water management agency? |

7.4.2 Workshop discussion and views

Key tasks for a water management agency included:

- To ensure sustainable development and use of water, and policies to that effect,
- Maintaining and coordinating water resources data,
- Water allocation and licensing of water use, including enforcement,
- Flood and drought mitigation
- Public awareness on water resources

The workshop generally considered that overlaps and coordination with existing agencies should be catered for in any legislation and in decisions on responsibility. Most of the functions identified by the workshop are tasks that are not undertaken at present (eg water allocation) or which require the coordination of a number of agency activities (eg water resources information).

A view from the workshop was that the national coordinating council or board should develop policy and legislation or advise the government on policy (as a sounding board for new policy initiatives), while the water management agency is responsible for operation and administration.

An unresolved issue of responsibility is the management and control of areas of catchment to protect water supply sources (such as reservoir catchments). There needs to be coordinated with the development of the commercialised water supply and sanitation.

7.4.3 Recommendations on administration

The key recommendation is that there an agency should be assigned the responsibility for water resource management in the Fiji Islands, which ensures the sustainable development and use of water resources, both surface water and groundwater (the sources should be managed consistently and together).

Ensuring appropriate water resources information is available for management decision-making is an important task for the agency.

Note that, in light of the earlier discussion of water policy, the agency should be charged with considering the impact of its freshwater management decision on coastal marine waters.

7.5 Water resources information and data

7.5.1 Questions on water information

The workshop was presented with a series of water related data sets and asked to provide its views on whether they are adequate for water management purposes in Fiji, current and future. The workshop was also asked to consider how responsibility for water data should be assigned within Fiji and whether responsibility for this should be explicitly assigned.

The questions asked of the workshop are:

Table 5: Questions on water information and data

| | |
|---|--|
| 1 | Views of participants on the following data sets <ul style="list-style-type: none"> • Meteorological (weather and climate) • Hydrology (surface water runoff and river flow) • Groundwater occurrence • Surface water quality • Groundwater quality • Coastal water quality • Water use and demand • Ecological data • Socio-economic data related to water resources |
| 2 | Are existing collection and databases adequate for future needs? |
| 3 | What new data should be collected, if any? |
| 4 | How should national responsibility be assigned for ensuring such data is collected, archived and made accessible? |
| 5 | Is an explicit water resources data coordination function needed? |
| 6 | What national capacity is further required to analyse water data in various categories? |

7.5.2 Workshop discussion and views

Issues for water resources data in Fiji included:

- difficulties in data sharing and compatibility,
- data is collected for specific projects but not for long-term planning purposes, which means therefore that it exists in 'hot-spots' but not other areas and many not be collected in the long term.
- data on surface water resources in Fiji are scattered and not adequate for assessing the

In summary, data is located in various data bases which have been developed for different purposes, including water supply and sanitation schemes in urban and rural areas.

An issue is national responsibility for data and information on various aspects of water resources. Various agencies do collect data, but do not have a formal responsibility to do so on a national scale. No agency is responsible for collecting data on the quality of coastal waters, although the Environment Department has a general mandate to report on the state of the environment, which includes coastal and other waters.

The workshop agreed that data collection was not adequate for long-term water management requirements. Data on water resources in small islands is also scarce.

The workshop agreed that a responsibility to coordinate the collection and collation of water resources data in various categories is desirable. The idea of data custodians who are given responsibility for a particular data set should be further considered.

National capacity needs to be strengthened to improve in areas of:

- data analysis and interpretation,
- data for planning,
- data for forecasting and modelling.

7.5.3 Recommendations on information and data

The workshop was generally agreed on the following:

- a national water resources data coordinator role for Fiji is desirable (this role would work to ensure that water resources data in various categories was being collected for long-term water management purposes);
- data custodians for various data categories
- capacity needs to be developed in technical areas, mainly in the processing and analysis of data and modelling for use in water resources assessment and impact assessment.

7.6 Water resources planning

7.6.1 Questions on water planning

The workshop was asked about the need for planning for water resource management and whether existing planning schemes and activities were adequate. The questions asked were:

Table 6: Questions on water resources planning

| | |
|---|--|
| 1 | Is any completely new form of planning required? |
| 2 | Do any existing planning schemes need to be modified to cater for future water management needs? |
| 3 | What links should be developed between existing planning schemes and a future water management regime? |

7.6.2 Workshop views and recommendations

Workshop participants considered that some planning schemes or activities might need enhancing. In particular they identified watershed management and coastal zone management needed to be linked to freshwater resources management. The links could be identified and developed by the water coordinating body (national water council or board).

Planning for the sustainable use and management of water resources was identified as a new area. This could be needed in cases where:

- groundwater extraction points need to be related to the assessed yield of an aquifer to prevent groundwater mining,
- allocation of surface water requires rules for water sharing between users and to maintain other values (such as base streamflow)

The workshop identified the need to ensure that any planning or criteria for water sources is reflected in development approvals by the Department of Town and Country Planning under its legislation. [This could be accomplished by a water licensing system linked to development approval.]

The workshop did not make any suggestions about the future of the hydrology

7.7 Capacity building for water management

7.7.1 Questions on capacity building

Discussion of capacity was intended to identify key areas for the development of expertise in Fiji. Since capacity in the Fiji Islands is limited, it is important to

Table 7: Questions on capacity building

| | |
|---|--|
| 1 | What new areas of expertise are required? |
| 2 | What existing areas of expertise need improvement or strengthening for future management needs? |
| 3 | What is required in regard to academic training and qualifications, local training and development of experience |
| 4 | What physical and software assets are needed to accomplish the tasks identified earlier for water management? |

7.7.2 Workshop views and recommendations

A number of specialisations were identified. These mainly have to do with technical and professional qualifications and capacity to analyse the status of, trends in and characteristics of water resources in various categories and to make management decisions. Specialisations mentioned included:

- Hydrogeology and drilling technology
- hydrology
- coastal engineering,
- climatology,
- information technology.

The workshop also identified the need for capacity to operate a secretariat for the national water council or board.

The workshop identified the need for capacity at all levels, including professional qualifications, technical training and on-job experience.

Modelling capability, including predictive models were also identified, although the value of models depends on data being available.

7.8 Public education and awareness

7.8.1 Questions on education and awareness

Table 8: Questions on water education and awareness

| | |
|---|--|
| 1 | What areas are already covered by education and awareness schemes? |
| 2 | What new areas need to be developed in public information and for what target audiences? |

7.8.2 Workshop discussion and views

There are a number of water education and awareness programmes in Fiji at present. Some are associated with PWD water supply and sewerage and others with environmental management. There are also programmes related to agro-forestry, and catchment management. Awareness about waste disposal and water quality is being promoted by the Ministry of Health and the Ministry of Education,

Areas which warrant further consideration were identified as:

- the meaning of sustainability in water resources management,
- good water use practices,
- adaptation of programmes for looking after rivers and water sources.

There was also discussion of the need to develop programmes for small islands which include both development of sources and supply as well as information and education about managing those supplies and water protection.

Water education programmes should be targeting water users and the owners of water sources.

8 Workshop conclusions

Although the workshop was designed to concentrate on water resources at the national scale, the point was strongly made that local water supply and water resources conservation and protection is of great importance. Therefore the national approach to water policy and legislation should be effective for dealing with the needs of small and remote islands and local communities.

The need for a new regulatory framework for water services (urban water supply and sanitation) is relevant to changes to improvement in the management regime, and the two should be developed in parallel. In particular, urban water supplies need a firm legal basis for their right to take water for their schemes. No such legal system is presently available. A second issue for urban water supply is the protection of supply catchments, which are presently controlled by the same

There is strong support for a number of directions for a water strategy in Fiji. These are:

1. water management is already facing problems of demand and protection and these pressure will increase over time, so that more robust management measures are needed for the future;
2. water legislation is required for the management of both groundwater and also surface water resources;
3. a water allocation system should be developed to allow water resources to be more explicitly shared and allocated to important water uses;
4. water-related rights and obligations of native land owners in Fiji need to be more clearly defined and commonly understood;
5. the freshwater-marine water relationship should be clearly recognised in policy and law, to ensure that offshore aquatic resources are protected;
6. national coordination of a more permanent and formal nature should be implemented
7. a governmental responsibility for water management should be recognised, distinct from land management and water supply;
8. the town and country planning system does not cover important aspects of water development and use, and: a facility for related water planning is warranted, although it would be implemented mainly in locations of need;
9. the information base for water management needs strengthening and national responsibilities need to be assigned and supported for the collection and maintaining of data on groundwater occurrence, and for surface water resources;
10. there is a significant need for capacity building in water management and administration, information technology and technical fields including groundwater assessment and surface water monitoring.

It is no surprise to find that the workshop agreed that there is a need for capacity building and education and public awareness. The key public awareness issues were considered to be pollution/water quality protection and water conservation. On the latter point, many Fijians perceived the country to have relatively abundant water resources, although scarcity occurs in two respects: (i) local scarcity in drier regions and small islands, and (ii) periodic drought conditions across the country as a whole.

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Appendix 2: Workshop participant paper

The following was circulated to participants prior to the workshop

Water resources management in Fiji

In recent years, the Government of Fiji has become concerned that the management of water resources should be efficient, equitable and sustainable. This concern has resulted from recent water developments and various types of conflict over water, as well as the commercial exploitation of water, flood and drought and increasing water quality problems. At the same time, external agencies, donors and experts are promoting change in various aspects of water management.

Two types of water sector activity are receiving attention. The first is water services, which are being reviewed to create more commercially operating models to be financially sustainable and deliver services to required standards without direct government intervention or control. An important current project in this area is the Asian Development Bank project to corporatise the water supply and sewerage functions of the Public Works Department.

The other type of activity is of a regulatory nature and management nature, including measures with public good purposes which are not commercial in nature. Reform in both areas must go hand in hand. For example, when services are commercialised they require changes to be made to the regulatory framework.

The reform being discussed at this workshop is mainly concerned with management of water resources for the public good which includes the regulatory aspects. These are questions of public management of water resources, to allocate water for all types of beneficial use, to control as well as social well-being and essential human needs, and to ensure that water sources remain sustainable and their quality is protected.

Reform steps already taken

The Government has already taken or is taking a number of steps towards improving water resources management in Fiji. They are:

- Decision to develop a national water policy for Fiji;
- Decision of Cabinet to establish the National Water Committee;
- Amendment of legislation to introduce control of groundwater extraction in selected areas and protection measures for aquifers in the same areas (currently being processed);
- Recent decision of Cabinet to approve an initial water policy for consultation and finalisation early in 2006..

These decisions indicate support by the Government for reform in the water sector, but they are only the first phase of action. For instance:

- The current water policy draft is very concise: some policy issues are not resolved and should be included in the future;
- The National Water Committee has no dedicated resources and therefore has limited capacity to investigate issues;
- The legislative amendments to the Minerals Act are an interim measure which need to be further developed (eg procedural aspects) and other legislative aspects of water need attention (such as surface water).

The workshop is organised to debate the next phase of steps in strengthening water governance in Fiji.

Water Governance

“Water governance” is defined as: *“the range of political, social, economic and administrative systems that are in place to develop and manage water resources, and the delivery of water services, (at different levels of society)”*.

The workshop and water strategy need to focus on the national level for the time being – those aspects of policy, legislation, organisation and technical capacity for water resources that can be improved on a national scale. There are many aspects of governance that involve regional and local activities, but these require separate consideration, although they are closely related.

The workshop is organised by the Mineral Resources Department, but some support is being provided by the European Union Programme for Water Governance (PfWG) for the Pacific region, through SOPAC. An objective of the PfWG project is to assist the National Water Committee to develop a proposal for the Government of Fiji that will enable a programme of water resources reforms to be put into place. This objective is in harmony with decisions already taken by Cabinet and therefore should be consistent with the aims of the Government as expressed in the national water policy document. The primary objective of the workshop is to provide advice on the important elements of such a reform programme and the strategy to accomplish it.

There are numerous issues for water management at other levels. Regional and local management needs to be considered in due course, and the participation of rural communities in various aspects of water resources is very important. However, the scope of this workshop needs to be limited to national issues, in order not to lose focus.

Workshop objective and issues

The objective of the workshop is:

- *To investigate and agree on the most appropriate way for Fiji to strengthen its capacity for water governance at the national level and to formulate the appropriate strategy.*

The questions to be asked at the workshop are:

- Firstly, what are the water management problems facing Fiji and what do the key government organisations consider to be their challenges?
- Secondly, based on the water management problems and challenges, in what ways does national governance for water resources in Fiji need to be improved?
- Finally, what are the most important steps to take to achieve that improvement?

The aim is to develop a broad strategy which the Government of Fiji can consider and adopt, if it agrees. The strategy should identify important actions needed to improve water resources management.

The draft national water policy already identifies some areas for action, including:

- establish national coordination for water resources;
- develop water legislation;
- review water resources information needs.

Resolving water issues

There remain some important water management issues which are not resolved and which cannot be resolved in a workshop such as this one. Some examples are:

- What precisely should be the rights and obligations of the owners of native land in respect of water and what should be the rights and responsibilities of others?
- How should the long-term responsibility for surface water information (hydrology) be assigned, in light of the corporatisation of the water supply and sewerage functions of the Public Works Department?
- How can long-term legal security and reliable water access be provided to enterprises requiring water for their business?

Such issues need to be identified and the key mechanisms for resolving them discussed, but to resolve the issues as such may require much further discussion and consideration. The workshop is intended to identify all such important issues for the Government to note and to suggest some ways to resolve them.

Primary responsibility for water resources

Fiji has never specifically defined responsibility for managing water resources, as such. Various legislation gives ministries and departments a role in developing, using and to some extent regulating various aspects of water, as well as providing water services – water supply, sewerage, drainage, irrigation, power generation using water, and flood mitigation. Some of these responsibilities are well covered in legislation and others only to a limited extent.

More recently, Fiji has developed policies on catchment management and catchment degradation.

Elements of water governance

Preliminary work on water governance has identified eight areas for attention, which will be discussed at the workshop. They are:

| Governance elements |
|---|
| 1. Water resources policy |
| 2. Water legislation |
| 3. National coordination on water |
| 4. Responsibility for water resources and institutional development |
| 5. Water resources planning |
| 6. Water resources data and information |
| 7. Technical and other capacity building |
| 8. Public awareness and education. |

Some brief comments are made on each of these.

Water policy

The Cabinet of Fiji has approved an interim draft for a National Water Policy, to be discussed and finalised early 2006. The current draft is brief and contains a number of principles, but there are important issues that are not resolved in the draft. This is because there needs to be further discussion before a conclusion can be made. Behind the need for the policy has been the commercial exploitation of groundwater for mineral water bottling, much of which has been for export. Through this enterprise, the Government's attention has been drawn to several aspects of groundwater management. They include the need for groundwater area protection, the question of groundwater allocation to this user and any other users, and the question of fees for groundwater use. The draft policy document is available for the information of workshop participants.

The question before the workshop is: in what respects does the current policy need to be strengthened and what matters should be included that are not resolved in the current draft? What is needed to resolve such issues?

Water legislation

The need for comprehensive water resources legislation is being recognised in Fiji. Although the Minerals Act is being amended as an interim measure to allow the Minister for Lands and Minerals to declare groundwater protection areas and to require that within such areas any commercial groundwater extraction can proceed only by a permit, this is seen as an interim measure only. Firstly, the amendments are a simplified version of what is required in the longer term (they do not include procedural provisions, for example). Secondly, they deal only with groundwater control and not with other aspects of freshwater. Thirdly, it is not appropriate in the long term to manage water under mining legislation.

Surface water allocation should also be considered. Some matters not addressed in the current amendments are the allocation of surface water for all types of use (for instance whether priority should be given to some types of water use over others), the procedures for water allocation in either groundwater or surface water (such as the need to allow for appeals against decisions or objections by those who may be affected), flooding and flood management, control of river beds and banks and foreshores, and water resources information.

In the discussion draft National Water Policy, the Government makes a commitment to develop comprehensive water legislation. Legislation dealing with water should clarify the rights of all types of water user and should facilitate the use of water for productive purposes. The workshop needs to consider broadly what such legislation should aim to achieve and what should be included in it.

National water coordination

The Cabinet established a National Water Committee which is currently chaired by the Director of the Mineral Resources Department and members include Directors or their representatives from a number of departments and organisations with responsibility for aspects of water. The Committee has not been given comprehensive terms of reference, but has been given the task of developing the draft national water policy. However, the Committee does not have dedicated resources and must therefore meet periodically almost as an ad-hoc committee.

In Fiji there is no high-level coordinating body to advise the government on water reform or on water problems of national significance. Such bodies are being introduced in many countries. The questions for the workshop on national water coordination is what is the need in Fiji for coordination at the national level on water issues and what should be the nature and tasks of such a body if it is created. Coordinating bodies normally have a membership representing various responsibilities

that are undertaken by different organisations. They may also include representatives of stakeholders

Questions include firstly what a national coordinating body should be achieving – what should its tasks be – and secondly what type of membership should it have? A council or board with representative members could advise the government and provide a coordinated view on matters that affect different sectors.

An advisory body only is envisaged. However, if such a body is to be set up it should have some resources to support it. At the minimum, to be effective, it would require a secretariat to organise and prepare matters for its consideration.

Also the existing National Water Committee at the level of Directors and with technically experienced representatives could have a continuing role in relation to a higher level national body. The workshop will be asked to consider these and related questions.

Responsibility for water resources management

In Fiji, as in all countries, a number of ministries and departments have responsibility for different aspects of water management and use. However, no agency has primary responsibility for the management of water resources, as such. This is partly a result of the fact that there is little legislation covering the actual management of water. The Department of Mineral Resources has been allocated responsibility for groundwater use and associated management, but does not have formal powers or legislation conferring that role. Groundwater and surface water should be managed similarly and preferably by the same organisation. The Department of Environment has some regulatory responsibilities for water resources (pollution licensing and monitoring). Other agencies are mainly water users (Public Works Department,

The most important institutional requirements facing the Government are:

- to assign responsibility for water resources management to an agency (existing or new);
- to define the responsibilities of any agency responsible for water management;
- to decide the location and structure of the organisation;
- to provide the resources to undertake the functions.

There are two questions to answer on administration. They are:

1. what responsibilities are already being taken but need either clarification, formalisation or a clear coordinated approach?
2. what responsibilities are not being taken by any agency but need to be introduced?

This can only be done when the functions of such an agency are clear and the resources it needs have been identified. The establishment of a water management agency or authority should match the size of the task. At this time, certain relatively major water developments are causing concern to the Government, and the initial establishment of responsibility should reflect the need to manage and regulate such water uses.

It seems clear that the Government needs to consider assigning the responsibility for the management of freshwater to a specific organisation, to include both surface water and groundwater allocation and control. The workshop will be asked to consider the nature of the water resources management responsibilities in Fiji.

Planning and water resources

With increasing demands for water and increasing threats to its quality, it will be necessary to plan for the coordinated use and protection of water sources. Such planning may need to take into account the various complex contributions of the catchment to the flow and quality of the water on the basis of the river basin or sub-basin. The river basin, sub-basin and the groundwater source (aquifer) need to be given attention for various aspects of planning, which could include such elements as:

- flooding, flood operation, floodplain protection and floodplain management and zoning;
- water allocation, whether groundwater or surface water;
- watershed management;
- water quality controls and associated measures;
- water quality protection, pollution abatement and control.

Various types of plan already in existence in Fiji. Some, such as the town and country planning system have statutory force. Others do not. Taking into consideration the range of planning that already exists, the workshop is asked to deliberate on these and other potential water planning issues and come to conclusions whether:

- existing planning mechanisms are adequate or can be adapted to deal with these problems;
- the problems are sufficiently widespread and serious to warrant a new planning system.

In either case, the nature of planning should be considered as far as possible, such as whether a statutory form of planning is warranted.

Water resources data and information

Reliable information and data are one key to effective management of water resources, to provide understanding of the characteristics and behaviour of water resources, which in turn provides a basis for deciding how to allocate water and what protection measures should be applied.

Two aspects of water data management are important:

- what should be the administrative responsibilities for various data and how should they be maintained?
- What are the technical and capacity building requirements for water resources information and data systems?

Fiji needs to ensure that water data in all the important fields is collected and maintained as the responsibility of an appropriate agency. At present surface water hydrology (gauging data) is the responsibility of the Public Works Department. In the future, PWD may not continue this function or it may be managed differently from now, in light of the organisational reform being designed for the water supply and sewerage services of the Department.

There are groundwater data in the Mineral Resources Department and with other agencies, but not a formal national responsibility to maintain a groundwater database.

The workshop will be asked to consider (i) what any major data sets require special attention for the purpose of planning and managing the water resources of Fiji, and (ii) what are the most important issues and potential solutions for water resources data.

Capacity building and technology

Identifying capacity requirements for water resources management depends on deciding the water management functions and the resources needed to implement them. However, there are some general areas of capacity that the workshop can discuss, such as the needs for groundwater and surface water control and allocation. The workshop will be asked to identify key areas for capacity building in water resources management, but more detailed consideration is expected in 2006.

For the time being, the workshop will be asked to identify the range of important capacity building requirements in all sectors and to make suggestions about the types of capacity building that would be appropriate.

Public information and education

Fiji is already developing some public education and information programs about aspects of water and water use. Consistent with work already being done, the workshop needs to identify the need in Fiji for public education and information.

Water resources information fields can be classified as follows:

- rural water protection and catchment management,
- water conservation in urban and domestic use,
- water conservation in agriculture,
- industrial and commercial water use and conservation,
- industrial pollution and waste disposal,
- solid waste disposal local and
- water quality at local level
- groundwater quality protection
- groundwater extraction issues

Some information needs may be clarified by decisions that result from the water reform process.

Workshop outline

Two days of workshop are planned. During the first day, the time will mostly be spent in presentations from various stakeholders indicating:

1. what they see as the water problems and challenges that need attention, and
2. what possible changes would help to meet those challenges and problems.

The second day will be spent considering the either elements of water governance and trying to agree on the measures that are needed in each of them. The output of the second day will be used to develop a water strategy for Fiji which covers areas of water resources allocation, protection and other management aspects.

The general outline of the workshop be along the line of:

- Discussion of water management issues, but not in too much detail or taking excessive time, but with a focus on present and emerging issues.
- Discussion of Fiji's capacity at present to handle both the present and potential emerging issues;
- Discussion of the governance elements and where strengthening is needed
- Discussion of the strategy for strengthening

The idea of the phased strategy will be put to the workshop, with the idea that the current actions on policy and legislation are features of the interim stage. That means the workshop needs to think about what is needed further and how it should be done.

Key questions will be:

- What the policy needs to cover that the interim policy does not cover
- What legislation is required (although this will be the subject in more detail of the next workshop)
- What organisational change is needed, and in particular whether
 - A national coordination body is useful
 - An agency charged with responsibility for the management of water resources is needed.
- Information needs and how to meet them

The workshop will not have time become involved in detailed debate about policy, except to raise the issues and suggests ways to advance them. Differing opinions about policy will be recorded but no attempt will be made to resolve complex issues at the workshop.