

CONSULTATION MEETING ON SUSTAINABLE WATER RESOURCES MANAGEMENT IN THE PACIFIC

THEME 5: INSTITUTIONAL ARRANGEMENTS

(A) OVERVIEW PAPER – POLICY, PLANNING AND LEGISLATION, AND INSTITUTIONAL STRENGTHENING - DAVID HILL

1. INTRODUCTION

“Water, water every where.

Nor any drop to drink.”

This well-known part-couplet from Samuel Taylor Coleridge’s *The Rime of the Ancient Mariner*, is not only a suitable sub-theme for this conference, but is also illustrative of the power that the concept of “water” has in art, literature and legend throughout the world. The plot is straightforward – a sailor adrift in a glassy sea. It is hard to imagine a more absurd state to be in than a situation where one is thirsty and surrounded by undrinkable water – of course if Coleridge had known of the tales of survival of canny Pacific islanders adrift for months in their boats he might have rethought those lines! Be that as it may, this is the stark prospect for many where water sources are contaminated, or diverted, or access otherwise precluded through inappropriate tariffs or other barriers, or simply lost or wasted through poor management. Many Pacific island country poorer urban areas are similarly awash with unusable water at times of flood, or parched atolls bear dry witness as isolated rain showers pass tantalisingly to seaward.

Fortunately Pacific Ocean countries, surrounded as they are on all sides by Coleridge’s paradox should be able to avoid this fate. Indeed the paradox for us is that we need to have this conference at all, situated as we are in the largest body of water on earth with the smallest total oceanic dry-land mass.

Eventually – and probably in the not too-far-distant future – no Pacific island will have reason to have a water problem *per se*. As desalination technology gets ever more sophisticated, available and affordable the ability to use this huge oceanic resource becomes an ever-present reality – almost irrespective of localised incidents of ground and surface water contamination.

However that prospect ought not to divert us from our common future and our common responsibilities toward sustainably managing and developing our water resources in, on and under each and every island in the Pacific – from the smallest water lens underlying our necklace atolls, to the mighty aquifers and surface water systems of a Fly or Sepik river catchment.

The theme of this conference – Towards a Sustainable Water Sector in the Pacific – is no less than the theme of a sustainable Pacific. Quite simply, without a sustainable water sector there can be no Pacific as we have known it. Water connects and inter-connects in ways that no other single natural resource does – it binds both natural and social systems. Water is liquid power as many nation states around the world have realised over time. Water is one of those taken-for-granted resources, until the day it is restricted. Deny or unreasonably limit access to water and the political and social consequences are often immediate. Similarly, if we fail to exercise proper control over the power of water then destruction, disease and deprivation soon follow. Water *is* the

essence of life. It is a basic right –or so we think. Strange then that no less an instrument than the 1948 UN Universal Declaration of Human Rights fails to mention the right to water!

But it is this very taken-for-granted status of the resource that is its most problematic part. Resource managers are very familiar with the concept of resources as “commons”; that is, they have no identifiable “ownership” structure, belonging to everyone. And because they belong to everyone, no one takes ultimate responsibility for their care and protection. At least, that is the theory of the “commons”. The Pacific, however, has a number of interesting variations on this theme. These are no longer common throughout the Pacific – perhaps they never were – but involve the allocation of specific guardianship responsibilities, either by clan or lineal inheritance or by appointment, for the health of resources, even where these are commonly available.

The unbundling of these rights and responsibilities has proven difficult depending on their traditional structures. For example, much of the western world has adopted variations on the riparian land ownership model. That is, ownership of land includes the riparian banks of streams, lakes and rivers but does not include the water or the bed of the water body. A body of law has therefore developed for the allocation of water rights, which is known as the *Doctrine of Prior Appropriation*. This doctrine allows the principle of “first in time, first in rights”. That is, the first person to divert water and put it to beneficial use is entitled to continue that use without interference from other users who might make subsequent claims. In some jurisdictions the use is time-limited and can be reviewed and amended; in others it remains in place as long as the use does not change. However within this doctrine there has been little room for concerns about the water ecology, its *in-stream* values. Indeed in parts of the Pacific USA the struggle to reduce old appropriations in favour of sustainable aquatic needs remains a significant battle.

The even more difficult issue of continental transboundary rights to water – that is major rivers or other waterbodies that lie or run under or between countries - fortunately, is not generally an issue for the Pacific. This issue being reserved for that body of water that is not the subject of this conference, the International Sea.

As difficult as this exercise in unbundling traditional rights might be – and in some Pacific countries this is made easier both by the geography of the country and by the way in which society is stratified – it is an essential part of the process for sustainable institutional reform. It is also inextricably wrapped up in the related issue of land tenure because water either passes through [surface water] or beneath [groundwater] land.

Whether an identifiable Pacific-way approach to institutional arrangements for water is feasible remains to be seen. Certainly a unifying characteristic for Pacific nations is their relatively small population bases, comparative lack of economic wealth, and their geographic nature.

The cry for institutional reform in many areas of life has been a constant message in the Pacific and elsewhere for the past few decades. In the area of water and sanitation this has also been the case. Every country and many individuals within those countries will have a view as to where, if anywhere, reform is appropriate. Whether it is agreed that the water sector generally or specifically:

- a) Warrants reform, and/or
- b) Is likely to benefit from reform, and

c) If (a) and/or (b) then in what areas / sequence reform should be undertaken, it is important to keep in mind the purpose[s] of reform.

By themselves new institutional arrangements – whether *instrumental* in terms of legislation and policy, or *operational* in terms of water departments and utilities, or technical in terms of the science and technology – will not solve problems. Without a broader unifying and commonly agreed objective or series of connected objectives, new arrangements are highly likely to do a number of things. They will probably:

- a) Recreate the old patterns of inter-agency behaviour – which presumably are one of the reasons for the reform in the first place;
- b) Establish a new set of personal initiatives [hobby-horses] that are not necessarily any more worthy than those they replace;
- c) Create a new set of regulatory compliance costs and requirements that are not necessarily more rational than those they replace;
- d) Over time become as disconnected as they were before the reform;
- e) Remain non-strategically directed.

The risks of this for the water sector are extremely high. At first sight this might not seem the case because water is, as we know, a reasonably pure monopoly – unless you dispense with the delivery reticulation system and only permit water sales from trucks and stores! However, as soon as we take institutional reform up the supply chain and start thinking about managing catchments for headwater protection, aquifers and water lenses for contamination, and water bodies for their biological diversity, then the breadth of the scope of our consideration encompasses most of the significant activities that occur within our islands. Overlay this with human health and sanitation considerations and few areas remain untouched by our concerns. Institutional water reform is potentially and actually political – as is evident in those parts of the world that have been moving toward the privatisation of water [a matter discussed below].

A key consideration for any discussion of future institutional arrangements must be to ask ourselves a series of questions:

- a) What are our *priorities*?
- b) What *must* be achieved?
- c) What would we *like* to achieve?
- d) What do has not *worked*?
- e) What do we want to *keep*?
- f) What institutional *relationships* are important?
- g) What are our environmental/economic/social *bottom lines*?
- h) How *quickly* must we get to our goal?

There are, of course, many other questions that can be asked, but if these at least are not answered, and the answers used to inform any reform process, then we will achieve, at best, piecemeal and haphazard results. Sometimes serendipity works – but this is not a particularly reliable business strategy!

What follows is a general discussion on some of the themes and elements that will arise out of deliberations about what sort of institutional arrangements might be appropriate for Pacific island countries.

2. THE SOCIAL GEOGRAPHY OF PACIFIC ISLAND WATER

While Pacific island countries share a number of common elements that derive from their relative isolation in a vast sea, the differences are equally important – particular with respect to the water sector.

With the exception of continental landforms, the Pacific contains a wide variety of island types, ranging from the large, high volcanic islands of Papua New Guinea to the tiny low coral atolls of Micronesia; from states with relatively few inhabited islands to those with many hundreds of the same; from those states, such as Papua New Guinea, with mighty river systems that run through many linguistic systems, to those that have no natural surface water systems, such as Niue, and are completely dependent upon rainwater and groundwater catchment.

Similarly the social structure of Pacific communities ranges from highly stratified, constitutional resource “ownership”, such as throughout Polynesia [for example in Tonga, and to a lesser extent Samoa], to quite decentralised sub-clan / family tenure systems evident throughout the catchments of Melanesia. Land tenure systems and customary ownership / guardianship of and for natural resource, including water, are equally variable – and while some states have either implicitly or explicitly sought to codify these rights in their modern constitutions, custom disputes remain a significant source of tension in many. The consequential issue of compensation for access to, or the extinguishment of rights to, land and resources, while being acute presently in Melanesia, also poses significant questions for the implementation of effective institutional arrangements more widely.

At the same time all states share the common occurrence of increasingly dense primary settlements, particularly around the capital towns, with increasing numbers of under- or un-employed. These settlements bring quite different problems for the water sector.

The result is that many Pacific island countries have adopted a water service delivery distinction between the urban and rural or outer island areas. This has been based on a number of readily apparent reasons in urban areas. For instances:

- ✂✂ In most cases the state has centralised the control and ownership of town land and is able to secure easements etc. for water catchment and reticulation infrastructure;
- ✂✂ The alternatives to a co-ordinated water supply delivery mechanism run significant public and environmental health risks;
- ✂✂ Economies of scale apply;
- ✂✂ Many commercial and tourist operations require certainty of quantity and quality;
- ✂✂ Population densities in the main towns result in small lot development remote from surface water sources;
- ✂✂ Raw surface water sources close to main towns are often below international standards for drinking water.

In the rural areas where smaller scale and cost operations are feasible, community owned and managed facilities are more common – often with the involvement of local government bodies, churches, NGOs, and other donors – although access to surface water supply, maintenance, and operational cost issues seem to be ongoing concerns.

The above, very simplified, overview of differences suggests that institutional solutions to the particular social – geographic configurations of Pacific island countries will have to be tailored to suit. A one-model-fits-all solution is unlikely, although this does not preclude the prospect of adopting common service level standards and overall management frameworks and principles. Whether a model Pacific water law is practical remains, in my view, questionable.

3. SUMMARY OF ISSUES, CONCERNS AND CONSTRAINTS

A comment made and reported in the UNESCO/SOPAC/UNDDSMS proceedings of the 1994 Pacific Water Sector Planning, Research and Training meeting in Honiara caught my eye when doing some background reading for this Theme. The comment was attributed to SOPAC’s Alf Simpson and stated:

“We know well what the needs are, the relevant point for discussion is how to satisfy them.”

That comment serves us well in this proceeding if we can but follow it. The discussion this section covers some of those needs with respect to the institutions¹ used throughout the Pacific.

3.1 Protection, management and development – Integrated management and control

The nature and state of the existing water resource – including surface and ground waters - is the point at which all other considerations should start. If, for example, an island’s water resource is in good health [both in terms of natural quality and quantity] then the need for regulatory intervention is clearly less urgent. If, on the other hand, demand / abstraction is exceeding recharge / replenishment requirements or groundwater is exhibiting significant organic nitrate contamination, then intervention needs to be considered.

Often, however, the health or otherwise of our water resource is not so clear-cut. This for a number of reasons that might include the following:

- ~~///~~ the base quantity and quality data are incomplete; or
- ~~///~~ inputs and contaminant pathways are incompletely understood and/or mapped; or
- ~~///~~ our technical capability is insufficient and/or over-committed; or
- ~~///~~ access to appropriate sites for research and/or monitoring is difficult.

We all know how difficult, time-consuming and expensive it is to complete and maintain the water resource record. Yet despite this many Pacific island countries have a quite comprehensive appreciation of at least the resources that are at risk of failing basic quality and quantity standards for potable supply, and those upon which the larger population centres depend. It is sometimes helpful to remember that, unlike the

¹ The term “institution” is used throughout to refer both to operational arrangements [such as a water department] and instrumental arrangements [such as a water act].

archetypal scientist, public policy does not need the last word in understanding before sensible actions are taken [but of course we often need good science to tell us which steps will improve our chances of achieving our intended actions!].

At the same time, water professionals are acutely aware of the need for vigilance to continually monitor the health of these resources and to ensure their sustainable abstraction, replenishment and use. We are becoming increasingly adept at identifying and using relatively inexpensive aquatic biological organisms as indicators of the ecological health of surface water bodies. However, recognising these signs and being able to protect the pathways that determine or influence these conditions is a different story. And this is even truer for groundwater resources, where the influence of land use practices over lengthy periods of time are particularly significant – of which among those currently the subject of concern, the most important are probably residential sanitation and farming and agri-chemical practices.

While professionals recognise the need to manage all aspects of the water cycle in as integrated manner as possible, the key policy question relates to the level of risk management that Pacific island countries consider appropriate to achieve whatever water quantity or quality standards are put in place. The policy goal of absolutely protecting all water sources/resources is often not a practical option. For a variety of reasons – primarily economic and social - states often have to make difficult calls with respect to acceptable levels of contamination / pollution. In order to be able to set these parameters at sustainable levels, countries need good information, good technical monitoring, and good institutional cooperation. In effect one of the principal public policy gains from well-integrated water resource management – apart from the obvious ones of more efficient understanding and management of the subtle interconnections – is that of being able to permit activities more confidently to approach the limits, and therefore maximise use and minimise overall compliance costs. In order to give effect to these opportunities, it is essential that powers, rights and responsibilities are identified for all parts of the water sector.

3.2 Water, wastewater and stormwater [the 3 waters] - Integrated management and control

One of the issues confronting Pacific island countries, particularly with respect to their main towns, is the extent to which management of the three waters – water supply, wastewater collection, treatment and disposal, and stormwater collection and disposal – is integrated. While it is true that Pacific states do not generally have a water shortage problem in terms of rainfall, droughts are part of the water cycle in parts of the region. The potential for more efficient interception of rainwater – and therefore a reduction in stormwater requiring management – is a matter of growing awareness of the merits of water conservation.

At the same time the practice of simply diverting stormwater – particularly road run-off – directly into coastal water and streams, without any form of treatment or sediment settlement, is coming under scrutiny. This issue becoming more acute in those main towns that are experiencing significant urban growth, much of which takes place in less desirable locations, often low-lying and flood prone. In these situations, stormwater tends to become contaminated by wastewater from inadequate sanitation treatment devices.

Where urban settlements have a common wastewater treatment facility the argument for integration of water supply and wastewater is often made because of the relationship between water supply and volume of influent received at the plant.

One of the areas in which a great deal of attention has been focused with respect to integration – although it is arguable whether integration has been consistently achieved – is in the cross-over between water supply, wastewater disposal, sanitation and human health. This is an area where it is particularly important that the formal regulatory, standards setting, and monitoring responsibilities are well defined and co-ordinated. Not just for reason of administrative efficiency and public certainty, but more particularly for the very practical reason that infrastructure costs. Sensible statutory planning is not just a community *feel-good* exercise. Integrated asset management planning and development can stretch scarce resources to make significant side-gains. Setting the requirements for this to be done in statute – even if the actual service is provided by private sector agents – has proven beneficial in many “developed” jurisdictions. The important point to consider is whether *integration* is a *process* principle or an *agency* principle. These options seem to me to sometimes get confused. Put simply, integrated management does not necessarily mean one single agency – indeed that situation will almost certainly frustrate progress. The best fit for integration must be defined in terms of a country’s particular pattern and needs – and then legislated. The Pacific is full of draft legislation that fails the crucial test of relevance.

3.3 *Legal framework for water*

All Pacific island countries have some form of legal policy for water.

Where explicit legal policy has not been not codified [and often even where it has] traditional common law/lore is everywhere at hand – in itself a significant issue throughout the Pacific. Unfortunately, nowhere does this wider body of Pacific law appear to have been systematically brought together in a single database. If this occurred the creativity of Pacific law drafters and lawmakers [good law, after all, responds to real perceived problems] could be used to further refine and develop individual country expressions.

Water law internationally rarely recognises the unity of the hydrological cycle. It tends to be either sectoral or resource-based – e.g. energy and water are often dealt with separately even where hydro-generation is involved; forestry and water are often poorly integrated; agriculture and groundwater often overlap; etc. Either way, water is split between many statutes – even where this is an explicit water law. There are distinct schools of thought regarding whether laws dealing with *fugitive resources* – that is resources [like water, air, or pelagic fish] that move around otherwise essentially stationary resources for which rights are defined [such as land or crops or buildings] - or should be sectoral [i.e. user-based] or resource based. In light of the fact that water is such a pervasive resource, a fully integrated single water statute – what is known as *omnibus* legislation - dealing with all of its implications is not usually realistic. And even if such legislation were to be enacted, there would be all manner of practical problems just keeping the legislation up-to-date and relevant. Indeed, few Pacific island countries have specific water legislation that seeks to integrate the allocation and management of water *as an environmental resource* – it is much more common to find public health-based legislation.

In short, all jurisdictions will inevitably end up with a mix of sectoral and resource-based legislation. That is really not the issue. The important issue, and the one that

must be addressed, is how best to facilitate the integration of all the bits and pieces without creating a bureaucratic or regulatory nightmare. The bottom line, with which everyone seems to agree, must be the genuine sustainability of water as a resource. The institutional problem is determining what that means in a public policy sense, and therefore exactly what checks-and-balances need to be put in place, so that the commerce of life and the life of commerce can proceed with least interruption.

Historically many Pacific island countries have started their water legislation from a human health rather than a natural resource perspective. This makes eminent good sense as water-related public health issues have been, and continue to be, a significant area of concern. Legislation for the protection of water bodies for their intrinsic values [aquatic biology, quality, quantity] tends to be of more recent focus as we appreciate that looking after water sources and their associated environments actually gives us more flexibility for use [including carefully managed treatment disposal options], while addressing public health issues at the same time. Other legislation can be found that deals with water-related matters as a subsidiary issue. For example, mining legislation often focuses on the extractive, processing and commercial/royalty aspects of the activity while relying on other or subordinate legislation to manage groundwater diversion, discharge, and post-closure events.

In terms of some sort of idealised legal framework for water, the following elements are, to some extent or another, found in the Pacific:

✍✍ **Constitution:** The constitutions of Pacific island countries vary in the degree to which natural resource rights generally and water rights specifically are articulated. In some constitutions, rights are clearly identified with the Head of State – as in the Kingdom of Tonga – and with others their allocation by the State is guaranteed for the benefit of the people – as in the Republic of Vanuatu and PNG. While it might be desirable for constitutions to stipulate the respective state, corporate and individual rights of ownership, use and access to surface and groundwater features, this is not common. In the absence of this it is left to the courts to determine based on particular codes or the common law.

While the question of the ownership of natural water is a very difficult and complex matter, this is less so for ownership of water-related assets, for access, or for traditional usage.

The constitutional definition of water rights is a particularly important issue in those situations where limitations are being imposed – as for example in the establishment [and removal] of informal or squatter settlements in strategic water resource areas, or the expansion of urban areas into non-government land.

✍✍ **Statute law:** A body of law dealing with the protection, regulation, management use of water, including the definition and allocation of property rights relating to water bodies; minerals and living organisms contained in water bodies; limits to property rights with respect to resource rentals, transfer of rights, and interference with the rights of other in-stream user; cultural and traditional use rights; powers and functions governing the administration of legislation; procedures for establishing national water priorities; provisions for the promulgation of regulations and standards for such matters as water quality, public health and hygiene, and environmental assessment; compliance and law enforcement; and a comprehensive court system.

Inevitably this body of law will be comprised of many bits of primary and subsidiary legislation – for example it must mesh with and be consistent in such areas as building codes/standards, by-laws for local government, water supply for fire fighting, regulations for discharges from ships and other vessels, the application of pesticides and fertilisers to land, drainage from highways, treatment of mine wastes and discharges, and so forth.

✍✍ **Custom framework:** The customary framework [or common law] for the holding, use, allocation, stewardship and dispute resolution of water resource matters should be accurately described and, where practicable and appropriate, incorporated into the formal legal framework.

This includes traditional uses of water sources and areas surrounding water sources for bathing, washing, healing, as well as those customary practices of prohibition and closure so necessary for resource conservation. It is also important to capture the different gender roles and responsibilities surrounding water.

Without doubt one of the more difficult areas for legal policy in the customary framework is that of due and proper compensation for the loss of resources or access to resources. Expectations of compensation are held by many to have become escalated out of all sensible proportion. In the absence of government policy direction on this question, a process resembling extortion is inevitable. For example, water supply is unable to be provided to communities because the compensation demanded by adjacent landowners is beyond prudent investment or project budgets. Other instances will come to mind of occasions where claims are lodged stating that compensation was paid to the wrong person, or other interested parties lodge secondary demands for compensation on the grounds that insufficient was paid initially. Some Pacific island countries have tried to manage this issue by outright purchase of urban land and associated rights – only to find that the same compensation issues surface as a result of inadequate land lease drafting. Failure to provide general provisions in legislation relating to leasehold easements for water supply and drainage, for example, can lead to this situation quite quickly. A good example of customary practice finding its way into non-customary systems!

Consideration also needs to be given to any role that village and chiefly councils might play in helping to settle resource disputes – for example Vanuatu recently enacted a Customary Land Tribunal Act 2001 in which traditional chief-based hearing panels make binding decisions on matters referred by agreement of the parties, and effectively bypass the more formal administrative and civil court jurisdictions [except on constitutional or natural justice matters]. This model works by combining traditional decision structures with contemporary legal process.

✍✍ **Policy:** While policy is often a sub-set of statute law, it is a key area in its own right. By itself legislation rarely provides sufficient direction. It may, and often does, give a general direction as to the requirement for a national water policy for example, but the details remain to be determined. The purpose of statute law is more often to state functions and powers, and occasionally principles, rather than detailed policy.

Policy has both a national and an international focus. An increasing emphasis on international conventions and treaties, such as those that have derived from the aftermath summits etc of the 1992 Rio convention on sustainable development, is

also putting expectations on Pacific island countries that we will develop appropriate domestic policy. Closer to home, for example, the 2001 *Majuro Pacific Wastewater Policy Statement* elaborated guiding principles that included the expectation that national policies, regulations, institutions etc. appropriate to the Pacific and supportive of sustainable wastewater management will be developed.

Policy does not, of course, require legislation. Indeed Pacific island countries have a range of informal and formal policy instruments covering the water sector. I suspect that the integrated water resource management theme sessions will provide many examples of these. The development of domestic policy on water should not depend upon legislation – although legislation will often be necessary once the policy is developed to give it teeth – particularly where enforcement or the limiting of informal or traditional/customary rights is concerned.

✍✍ **Plans and Planning:** Integrated water sector planning requires that policies are translated into operational plans, institutions are developed in accordance with those plans, implementation targets and benchmarks are established, and review mechanisms are put in place. If these stages are mirrored in legislation and backed up by awareness raising and compliance and law enforcement, we can then be more certain about our probable success in achieving sustainable outcomes. There is no special recipe for success, except to say that all the bits and pieces must be brought together over time – and it certainly helps if the evolving process is guided by a clear set of policy objectives and principles, codified into a national or regional plan so that all sectors can become involved in the definition of the approach and begin the important step of *ownership*. And the plan – whether it is a national water strategy, a corporatisation of delivery services plan, an urban drainage plan, or whatever – needs legal force if it is to have any chance of realisation in those very difficult situations where property or custom rights will need to be challenged. Too often plans remain in an unapproved draft form, where uncertainty and open-ended discretion for government [both central and local] officials reduces confidence in outcomes. Statutory plans are, in a sense, more honest than non-statutory ones because they create a more certain framework for dealing with the relationship of rights held or presumed, and remove an element of arbitrariness in the discretion that government officials otherwise have.

✍✍ **Contracts:** As Pacific island countries move – have moved – to adopt business models for service delivery and asset management the issue of legal contracts for services or for asset leasing, for example, becomes critical. We will hear from a number of Pacific water authorities throughout the conference. They all have different contractual relationships with the governments of their countries. Some are short term, other of significant duration [for example UNELCO in Vanuatu with a 40 year contract, which reflects a number of factors including the state of the asset at commencement, capital investment requirements, profitability, etc].

In an ideal world, contracting out would be the final step in the process, and would follow from clearly articulated national water policy, resource information databasing, institutional reform, legalising of rights, duties and functions, and so on. Ideally both parties to a contract need certainty and to be clear as to what it is they want from the other party and what they can reliably give to each other. If this is unclear then the contract cannot be specified with sufficient particularity, and later conflicts over interpretation or expectations or matters unstated but assumed, are likely to arise. For example, a crucial issue in urban water supply is

whether a “pro-poor” cross-subsidy or some other form of contra payment for connection or supply is to be adopted – and who should pay, and for how long, and how calculated, etc. Fiji is an example of this with its cross-subsidy from power charges to water supply. Obviously such issues must be part of the contract negotiation process. While issues arising can be “retrofitted”, it is advisable to have a “no surprises” policy approach to contracts of this sort.

However, it is not sufficient to simply specify a series of present-day issues for contractual purposes. A contract whose legal term is for 20, 30, or 40 years will bear witness to issues that we haven’t yet thought about. Contracts therefore need a degree of flexibility – for example by the mechanism, contained in many water contracts internationally, of governments of the day confirming forward capital asset development plans or approving Statements of Corporate Intent. Another similar matter over which governments characteristically want to have some form of control is unit charges. If the contract fails to specify the mechanism for this considerable downstream tension between operator and owner can ensue. Businesses require a degree of certainty in their operating environment in order to be efficient. Unless contracts provide this it is unlikely that the anticipated outcomes will be achieved.

Customer contracts and charters are the other important part of this arrangement. Time spent in establishing appropriate contracts with customers is usually repaid with fewer subsequent disputes.

With the emergence of water and other utilities throughout the Pacific over the past 20 years, we now have a considerable body of knowledge about contract specifying. That needs to be shared more widely – mindful that issues of commercial confidentiality sometimes make this difficult.

ES **Enforcement:** It almost goes without saying that legal mechanisms and institutions require enforcement at the end of the day. If breaches of regulation and law with respect to water, including the abuse of assets, remains unchecked or unanswered, then confidence in the network and its authorities can be rapidly eroded. In the Pacific, with its relatively small population bases and close communities this is a very sensitive matter. Enforcement agencies are not usually natural resource-orientated and while water utilities can turn off supply to payment defaulters relatively easily, the removal of squatters from protected water reserves or pursuing someone who has deliberately cut a supply line or polluted a watercourse, is quite a different matter. This relative lack of enforcement capability is one further reason for pursuing the maximum degree of private and community ownership of water sector infrastructure and goals. Reliance upon the force of law to achieve water sector sustainability in most Pacific island countries is arguably not the preferred strategy.

Of course legal structures are one thing, implementation is quite another.

3.4 Governance arrangements for regulation and service delivery

One of the lessons that has emerged from the water sector internationally, particularly over the past 20 or so years, is that increasing competition for water requires much more comprehensive and integrated management if the three elements of social welfare, environmental/ecosystem integrity and economic productivity are to be achieved in a sustainable, triple bottom line way.

In order to make this happen a number of fundamental actions are necessary. The ADB has characterised these as follows:

- ✍ stakeholder participation in all stages of the project cycle;*
- ✍ attention to the complementary roles of the public and private sectors, recognition of the special contribution of women, and incorporation of economic instruments to improve allocative efficiency;*
- ✍ integration of pro-poor strategies into project formulation to ensure that services are extended to poor areas and that rights of access are assured for the poor and other disadvantaged groups;*
- ✍ strengthening of regulatory and control functions to maximize opportunities for private sector participation in service delivery;*
- ✍ environmental protection and enhancement as an integral part of every new project, with each project being evaluated in the whole river basin context; and*
- ✍ acquiescence of directly affected communities prior to committing investment funds.²*

If the above are to be properly incorporated into the sector then attention to issues of the *structure* of governance are crucial.

The mix of water governance arrangements evident in Pacific island countries is generally a variant of a kind on the following components:

✍ **Line Ministries:** Water resource issues are generally concentrated in the key ministries/departments responsible for health, public works and natural resources. Hydrogeology is commonly associated with natural resource agencies [for example lands or mines].

However many other agencies are involved – for example finance and commerce departments with respect to water tariffs; and ports and marine departments with respect to navigation and safety, wharves and jetties.

While overlapping jurisdictions pose a real risk of unco-ordinated action, these are a necessary reality in Pacific island countries with relatively small bureaucracies. The challenge is to make co-ordination happen without tying up the administration.

✍ **National Water Committees:** A number of countries have developed national water committees to improve co-ordination and to prepare national water resource policy. While these tend to be controlled by line ministries they typically include representation of some sort from utilities, major consumers, and sometimes civil society groups. These committees vary in their functions and powers.

² ADB Annual Report 1999 - Theme Paper No.8 – Water in the 21st Century: p16-17.

- ✍️ **Local Government:** The role of local government in the water sector is a developing one – somewhat paradoxically as the traditional political units in many Pacific island countries is at the village and sub-village level. Typically in the urban towns the role is limited to building standards/bylaws for sanitation and water supply, and some stormwater / flooding responsibility [often shared with the country's public works department through which development assistance may be routed]. In rural areas oversight of the provision of community water supply systems and some sanitation responsibilities are commonly merging. In many respects the development of a Pacific island country local government sector is yet to emerge fully – partly because the traditional developed world model is based on a revenue-generating land rate/tax system that is not usually in place to support decentralised infrastructure programmes [especially maintenance and operation].
- ✍️ **Local Water Management Committees:** For the purpose of supervising the operation and maintenance of rural community water supplies local water management committees are emerging as a means of facilitating ownership of systems. With these committees it becomes very important to specify the respective obligations and responsibilities between service providers, regulators and the community – particularly with respect to ongoing issues of maintenance and operation. Too often schemes reportedly fail because of differences in expectation with respect to the future cost burden.
- ✍️ **Business units /Corporations / Boards /Utilities:** The delivery end of water supply and wastewater disposal – where it is controlled – comprises a mix of public and private sector arrangements. This is an area where most change is occurring as the efficiency gains of non-political, single-objective structures are tested. In general terms Pacific island countries are confident in moving the water supply sector into quasi-private and private sector management arrangements. However, in recognition of the public good aspects of this sector, countries are reluctant to pursue privatisation, preferring, as for example in the case of Vanuatu, to retain the residual assets in public ownership even though with a lengthy contract terms [40 years in the case of Unelco's agreement with the Government of Vanuatu – the Government has recently sold its shareholding in Unelco, seemingly content with the robustness of its contract].

Within this mix can be found a variety of billing regimes, directorship appointment rules, ministerial oversight responsibilities, customer service standards, and so forth.

3.5 *Privatisation and Public Ownership*

By and large the issue of the privatisation of the water sector generates far more steam than light. For relatively small-scale operations, such as characterise the needs of Pacific island countries, the option of full privatisation is rarely attractive commercially. Certainly parts of the sector are capable of commercial returns – depending on the terms of sale and conditions of operation – but the more credible future is partnership under public ownership. This is for the simple reason that water is a strategic resource, a natural monopoly, and real pricing across what are comparatively small sectors difficult. Institutionally, then, the sort of public-private ventures that have emerged in PNG, Vanuatu, Fiji, Samoa, Tonga etc are practical commercial variations on this theme. Once the spectre of privatisation as an issue that we must constantly be on our guard against is overcome – and considerable public awareness is often necessary – then the

real benefits of a focused commercial enterprise, aligned with public social and environmental goals, can be approached.

There is a steady movement throughout the Pacific in the water sector toward the contracting out of services. In order that these reforms are driven in the light of public policy aspirations, rather than merely abstract notions of efficiency and effectiveness, a number of key policies need to be set in place. In some countries reforms have proceeded in advance of this step – but there is still merit in completing the policy loop and, if possible, renegotiating contracts.

3.6 Functional Activities

The following Table indicates the general functions undertaken in the water sector and ways in which the various private/public sector split occur or are intended to occur.

FUNCTION	PUBLIC	PRIVATE
Administration	Application processing	Application reviews under contract Revenue collection
	Hearings and decisions	
	Prosecution	Customer contract termination
Asset Development	Donor-funded programmes	Asset development programme
		Loan funding
Contract	Specifier	Govt Contract compliance
	Reviewer	Annual accounts and reports
		Forward development programme
		Customer contracts
Ownership	Public assets	Build, Own, Operate and Transfer options
Regulation	Water quality guidelines and standards	Benchmarks
	Water quantity controls	
	Price bands	
	Competition / Monopoly controls	
Policy	National water policy	Interpretation
	Water conservation strategy	
	Legal policy – integrated codes	
	Administration policy	
	Integrated WRM	
Price	Overview	Fees and charges
	Contract subsidies	Billing strategy
	Investment / return on assets	
Public Awareness	Water policy and environmental conservation awareness	Customer information
Research and Investigation	National water resources inventory	New sources of supply
	Watershed sensitivities	Implications of use
	Cultural and social associations	Assessments
	Monitoring and review	Monitoring reports
Service Delivery	Water collection, treatment and supply	Water collection, treatment and supply
	Water collection, treatment and supply	Water collection, treatment and supply
	Stormwater collection, treatment and disposal	Stormwater treatment and disposal
Training	Securing funding assistance	Training courses Funded training

4. ACTIONS UNDERTAKEN TO DATE

The four Tables on the following pages, which will be completed as the 20 country papers come to hand and the information gaps can be identified, added and amended, indicate the current state of affairs with respect to the institutional, policy and planning frameworks for the Pacific. They do not, of course, indicate broader international frameworks.

4.1 Water Policy

Small Island Countries	National Policy		Local Policy	
	Drafted	Adopted	Drafted	Adopted
American Samoa				
Cook Islands				
East Timor				
Fed States of Micronesia		Policy is left to the 4 States through the Utility Corporations. Infrastructure Development Plan		Public Health; Protection of water resources; Conservation and controlled use.
Fiji				
French Polynesia				
Guam				
Kiribati				
Maldives	Levels of service Subsidy ceiling		Maldivian Water and Sanitation Authority [MWSA]	
Marshall Islands				
Nauru				
New Caledonia				
Niue				

Small Island Countries	National Policy		Local Policy	
Palau				
Papua New Guinea	/// Water Supply and Sanitation Sector Study 1996	/// Allocation of water management functions /// Medium Term Development Strategy 1997-2002 ³ /// National Executive Council decision 17/2000 - Privatisation Commission to prepare water assets for privatisation		/// Consultation via Provincial Water Supply and Sanitation Committees /// PNG Waterboard Corporate Plan 2000
Samoa				
Solomon Islands				
Tonga				
Tuvalu				
Vanuatu				

4.2 Planning and Legislation

Small Island Countries	Water Legislation		Water Plans	
	Drafted	Enacted	Drafted	Adopted
American Samoa				
Cook Islands				

³ Water supply and sanitation – under this Strategy water related issues are placed under the Ministry of Health.

Small Island Countries	Water Legislation		Water Plans	
East Timor				
Fed States of Micronesia		/// State EPAs -drinking water; pollution		
Fiji	/// Water Act – halted 1987	/// Water Supply Act /// Rivers and Streams Act /// Native Lands Act		/// Master Plans for Water Resource Development /// 2001 Cabinet approved establishment of Strategic Water Resource Management Plan Committee ⁴
French Polynesia				
Guam				
Kiribati				
Maldives				
Marshall Islands				/// National Water Supply and Sanitation Master Plan
Nauru				
New Caledonia				
Niue				
Palau				

⁴ Committee to investigate authoritative regulatory body on licensing and related matters; currently stalled.

Small Island Countries	Water Legislation		Water Plans	
	Papua New Guinea	/// Draft Environment (Water Quality) Regulations	/// PNG Constitution /// Organic Law on Provincial Governments and Local Level Governments /// Environment Act 2000 /// National Water Supply and Sewerage Act /// Public Health Act – Drinking Water Quality Regulations	
Samoa				
Solomon Islands	/// Water Resources Act 1998 - halted	/// Solomon Islands Water Authority Act 1992 /// River Waters Act 1969 ⁵ /// Environment Act 1998 /// Public Health Ordinance 1970		
Tonga				
Tuvalu				
Vanuatu	/// Water Resources Management Bill 2002	/// Public Health Act		/// Port Vila Sanitation Master Plan

4.3 Institutional Arrangements

Small Island Countries	National Regulator / Planning / Policy	Urban Provider	Rural Provider
American Samoa			

⁵ Refers to selected urban catchments only.

Small Island Countries	National Regulator / Planning / Policy	Urban Provider	Rural Provider
Cook Islands			
East Timor			
Fed States of Micronesia	/// National Government through State EPAs	/// Metropolitan councils /// Utility Corporations [water & power]	
Fiji	/// Ministry of Works – Directorate of Water and Sewerage /// Ministry of Lands and Mineral Resources ⁶ /// Ministry of Health /// Ministry of Agriculture – Land and Water Resources Management Division ⁷	/// Public Works Department	/// Local community
French Polynesia			
Guam			
Kiribati			
Maldives	/// Maldives Water and Sanitation Authority [MWSA]	/// Male' Water and Sewerage Company [MMSC]	/// Ministry of Health and Welfare
Marshall Islands			
Nauru			
New Caledonia			
Niue			

⁶ Responsible for groundwater assessment and development.

⁷ Responsible for river engineering, irrigation and drainage works.

Small Island Countries	National Regulator / Planning / Policy	Urban Provider	Rural Provider
Palau			
Papua New Guinea	/// Dept of National Planning and Rural Development ⁸ /// Dept of Environment and Conservation ⁹ /// National Water Supply and Sanitation Committee /// Dept of Provincial and Local Level Governments ¹⁰	/// Eda Ranu – Port Moresby /// PNG Waterboard – 11 major centres	/// Provincial or Local Level Governments
Samoa			
Solomon Islands	/// Ministry of National Planning /// Ministry of Mines and Energy [Water Resources Division] /// Ministry of Health and Medical Services ¹¹ /// Ministry of Transport, Works and Aviation ¹²	/// Solomon Island Water Authority [SIWA]	
Tonga			
Tuvalu			
Vanuatu	/// Dept Geology and Mines / Public Health	/// UNELCO	/// Rural Water Supply division /// Local community

4.4 Institutional Strengthening

⁸ Overall sector planning and budgetary allocation

⁹ Regulation of water resources and wastewater discharge

¹⁰ National Monitoring Authority

¹¹ Rural Water Supply Programme

¹² Urban water supply development

Small Island Countries	Legislation	Policy	Planning
American Samoa			
Cook Islands			
East Timor			
Fed States of Micronesia		Utility corporation self-sufficiency	Public education
Fiji	Institutional integration generally		
French Polynesia			
Guam			
Kiribati			
Maldives			Financial support for Island Development Committees
Marshall Islands			
Nauru			
New Caledonia			
Niue			
Palau			
Papua New Guinea			
Samoa			
Solomon Islands	Strengthening and capacity building required across the board		
Tonga			
Tuvalu			
Vanuatu	Implementation of WRMAct	National Water Policy statement	National water plan

5. FUTURE NEEDS

The detail of each Pacific island country's future institutional needs cannot be completed until the stocktake of existing arrangements, intentions, and specific water problems are identified.

However some broad themes are evident and these are generally discussed in the following section.

5.1 Policy

Legal water policy tends to be public health focussed. Drinking water standards and bathing water standards are a vital part of the policy picture. However, while this is a proper and fundamentally important aspect of the sector, it does have the perhaps unfortunate tendency to downplay source, quantity and natural quality aspects. After all, in an urban context, almost any water can be treated to a potable standard – but that is hardly a sustainable starting point.

Institutional water policy on governance, service levels, regulator responsibilities, competition, pricing etc remain either largely informal, or are detached from a water context.

An area for which regional assistance has already been identified is in the area of customary practice, land tenure, resource rights, royalties and compensation.

5.2 Planning and legislation

Once sectoral policy is adopted, the two key planning requirements of:

- ✂✂ Integrated water resource management
- ✂✂ Integrated land use management

can be completed. Most Pacific island countries have commenced planning studies with respect to their major urban settlements. This work needs to be completed in order that future growth planning can be directed and infrastructure provision made – without inadvertently compromising existing or future sources of water supply, or placing new settlements unnecessarily at risk from flooding events. At the same time new large commercial users of water can gain confidence that their investments will not be adversely impacted by water shortages.

5.3 Institutional strengthening

Priorities need to be determined for institutional and capacity building and strengthening. Across the Pacific this will continue to be necessary at least in the following broad areas:

- ✂✂ technical capacity [policy, planning, regulation, enforcement]
- ✂✂ field capability
- ✂✂ community relations
- ✂✂ regional capacity
- ✂✂ institutional reform

Each Pacific island country should do its own needs analysis because the priorities will flow logically from existing institutional arrangements. For example, while it is easy to identify updated water resources law as a clearly absent institutional framework in a number of Pacific island countries, there is little point in pursuing this as a priority if the water policy and planning framework, tools and experience are not aligned. Many commentators argue that law should precede practice and give encouragement to the institutions to develop. That is not my perception of how the Pacific actually works. In any event, good resource law in my experience usually emerges from the specific problems identified and experienced in practice. Water law reform should parallel institutional reform.

6. ACTION PLAN

At a Pacific-wide level a number of steps have been identified for institutional reform. The following elements [modified from a recent global summary by the ADB¹³ - but absolutely applicable to the Pacific region] should be integral to any future action plan:

- ? ? Promote a national focus on water sector reform through codifying water laws, sector co-ordination, institutional capacities, policies on poverty and ability-to-pay;
- ? ? Foster integrated water resources management, particularly with respect to investment and urban growth development;
- ? ? Improve and expand the delivery of safe, reliable water services, particularly by reinforcing private-public partnerships and securing equitable access for poorer parts of the community;
- ? ? Foster water conservation and infrastructure efficiency, through educational, regulatory and price-based mechanisms;
- ? ? Promote regional co-operation and information exchanges on matters such as legislation, enforcement, tradition, governance, socially inclusive development principles;
- ? ? Improve governance structures and arrangements, particularly in the rural areas of Pacific island countries;
- ? ? Build technical capacity in the areas of law, policy and planning.

When the Tables in section 4 are completed it will be clear that not every Pacific island country needs all of these steps to the same extent. However it would be a bold country that would claim to need none.

7. CONCLUSIONS

This paper will be finished when the Tables are completed following receipt of all the information contained in the Country Reports. At that point specific recommendations may be possible for groups of Pacific island countries that have similar problems or are at similar points in the development of their water sectors.

¹³ Water For All : The Water Policy of the Asian Development Bank 2001