SPREP
South Pacific Regional Environment Programme

A Pilot Information Management Workshop

for

PICCAP National Coordinators

Apia, Samoa
29 – 30 January 1998

SPREP Library Cataloguing-in-Publication Data

Information Management Workshop [for] PICCAP National Coordinators (1998 : Apia, Samoa).

A Pilot Information Management Workshop for PICCAP National Coordinators, Apia, Samoa, 29-30 Janauary, 1998. - Apia, Samoa : SPREP, 1999.

vi, 20 p. ; 29 cm

ISBN: 982-04-0199-2

1. Information resource management – Climatic factors – Oceania. 2. Management information system – Climatic factors – Oceania. I. South Pacific Regional Environment Programme (SPREP). II. Pacific Islands Climate Change Assistance Programme (PICCAP). III. Title

658.503 6

Published in June 1999 by the
South Pacific Regional Environment Programme
PO Box 240
Apia, Samoa
Email: sprep@sprep.org.ws
Website: http://www.sprep.org.ws

Produced by SPREP's Climate Change and Integrated Coastal Management Programme with funding assistance from the Australian Agency for International Development (AusAID).

Edited and cover design by SPREP's Publication Unit
Layout by Helen Dean Design, Australia

Typeset in 10/12 Century Schoolbook
Printed on recycled paper 90gsm Savannah Matt Art (60%) by
Quality Print Ltd
Suva, Fiji

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Original Text: English

SPREP's Climate Change and Integrated Coastal Management Programme

A Pilot Information Management Workshop for PICCAP National Coordinators

Apia, Samoa
29 - 30 January 1998

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Published by the
South Pacific Regional Environment Programme

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Acronyms

IPCC	Intergovernmental Panel on Climate Change
NGO	Non-governmental organisation
PICCAP	Pacific Islands Climate Change Assistance Programme
UNFCCC	United Nations Framework Convention on Climate Change
WCMC	World Conservation Monitoring Centre

1.0 Summary

Dr Edmund Green from the World Conservation Monitoring Centre (WCMC) presented a framework for information management during the first meeting of national coordinators of the Pacific Islands Climate Change Assistance Programme (PICCAP), held in Apia, Samoa, from 29 – 30 January 1998. Participants were introduced to a step by step cyclical process, termed the Information Management Cycle, that involves prioritising information needs, analysing information needs, designing information products and services, agreeing on roles and responsibilities and building capacity in information management generally. The participants used the tools and methods in the Information Management Cycle to prioritise climate change issues relating to the PICCAP work programme's Objective 3: Mitigation, which requires countries to calculate their greenhouse gas emissions and report on the best ways these emissions could be reduced, and Objective 4: Vulnerability and Adaptation, in which countries assess specifically how climate change might affect them and how they could reduce or adapt to those impacts.

During the first day, the range of options and relevant issues for mitigation of greenhouse gases were identified at a very broad level and categorised into the six Intergovernmental Panel on Climate Change (IPCC) recognised sectors. The group assessed the priority information needs for each mitigation sector, firstly on a country by country basis, and later generalised information needs for the Pacific region. One of the trends identified was that the information needs for the energy sector were relatively low although there is a lot of scope to implement mitigation policies and measures for this sector.

During the second day, the group identified existing information and information gaps that could be used for Vulnerability and Adaptation Assessment, firstly on a country by country basis, and later generalised information needs for the Pacific region. Sectors of the economy, significant geographical areas and key ecosystem components that may be at risk as the climate changes were divided into five sectors commonly accepted by the IPCC for Adaptation and Impact Analysis. Those sectors with the most information gaps were prioritised on a national and regional level. On a regional level, the information needs for the categories of Coastal Zone and Food Security featured prominently although there was less need for information on water-related areas.

The workshop provided a framework for managing the information which will be generated under PICCAP and emphasised the importance and benefits of doing so early in the programme's lifetime. All participants were invited to assess the two days' activities. A summary of their responses is attached to this report but the general consensus was that information management was going to be an important component in assisting Pacific nations through PICCAP to meet their obligations under the Climate Change Convention.

2.0 Introduction to Information Management

Thursday 29 January 1998 (09:00 – 10:00)

The workshop began with a presentation of general aspects of information management and its importance in supporting sound decision-making practices. This hour set the context for future detailed presentations and discussions by placing special emphasis upon:

- The timely, comprehensive and accurate information which is needed to solve environmental problems.
- The frequently overlooked fact that this information must be presented in a form which is easily understood by decision-makers.
- The complexity of environmental problems is such that multiple organisations and disciplines are always involved.
- The difference between project-based and decision support systems.

The presenter then described different information management contexts (local, national and international) and the differences between them. The "international context" was used to introduce the need for information management with respect to the Climate Change Convention. Participants discussed the two Articles of the Convention which highlight the need for information management (Articles 4 and 5, see Box 1) by obliging parties (i) to develop and exchange data on climate change through networks of national governments, non-governmental organisations and inter-governmental organisations, and (ii) to raise public awareness of climate change through education and training.

The group then examined the role of information management techniques in PICCAP using the project document as a framework for discussion. This document states that at the end of the project the Country teams, with associated national experts, will link science, policy and planning in the climate change field and will have gained the following knowledge, skills and tools:

- The expertise necessary to prepare national implementation plans and National Communications as required by the United Nations Framework Convention on Climate Change (UNFCCC).

Box 1 – The Need for Information Management in the Climate Change Convention

Article 4, section g-i

(g) Promote and cooperate in scientific, technological, technical, socio-economic and other research, systematic observation and development of data archives related to the climate system and intended to further the understanding and to reduce or eliminate the remaining uncertainties regarding the causes, effects, magnitude and timing of climate change and the economic and social consequences of various response strategies.

(h) Promote and cooperate in the full, open and prompt exchange of relevant scientific, technological, technical, socio-economic and legal information related to the climate system and climate change, and to the economic and social consequences of various response strategies.

(i) Promote and cooperate in education, training and public awareness related to climate change and encourage the widest participation in this process, including that of non-governmental organisations.

Article 5, section a

(a) Support and further develop, as appropriate, international and intergovernmental programmes and networks or organisations aimed at defining, conducting, assessing and financing research, data collection and systematic observation, taking into account the need to minimise duplication of effort.

- Expanded and systematised environmental and socio-economic data bases required for assessing vulnerability to climate change and sea-level rise and for evaluating adaptation options.

- Well developed national and regional networks upon which Pacific island countries can rely for cooperation in matters relating to the assessment, planning and implementation of measures for dealing with issues of climate change.

- Heightened awareness and appreciation of climate change and sea-level rise issues among governmental organisations, NGOs, local community groups and private sector stockholders as required through national consultation processes and workshops.

Ways of achieving this were illustrated with reference to the 'information management cycle' a flexible, process-oriented approach (Figure 1). The process breaks down the production of information into a series of steps which progressively empower managers to achieve common objectives. The five different steps of the information cycle were then presented as a framework for the rest of the two-day information management workshop:

1. Prioritisation of needs—balancing economics, environmental and social needs towards sustainable development.

2. Information needs analysis—analysis of the information needs for nations working to meet their obligations under the Climate Change Convention.

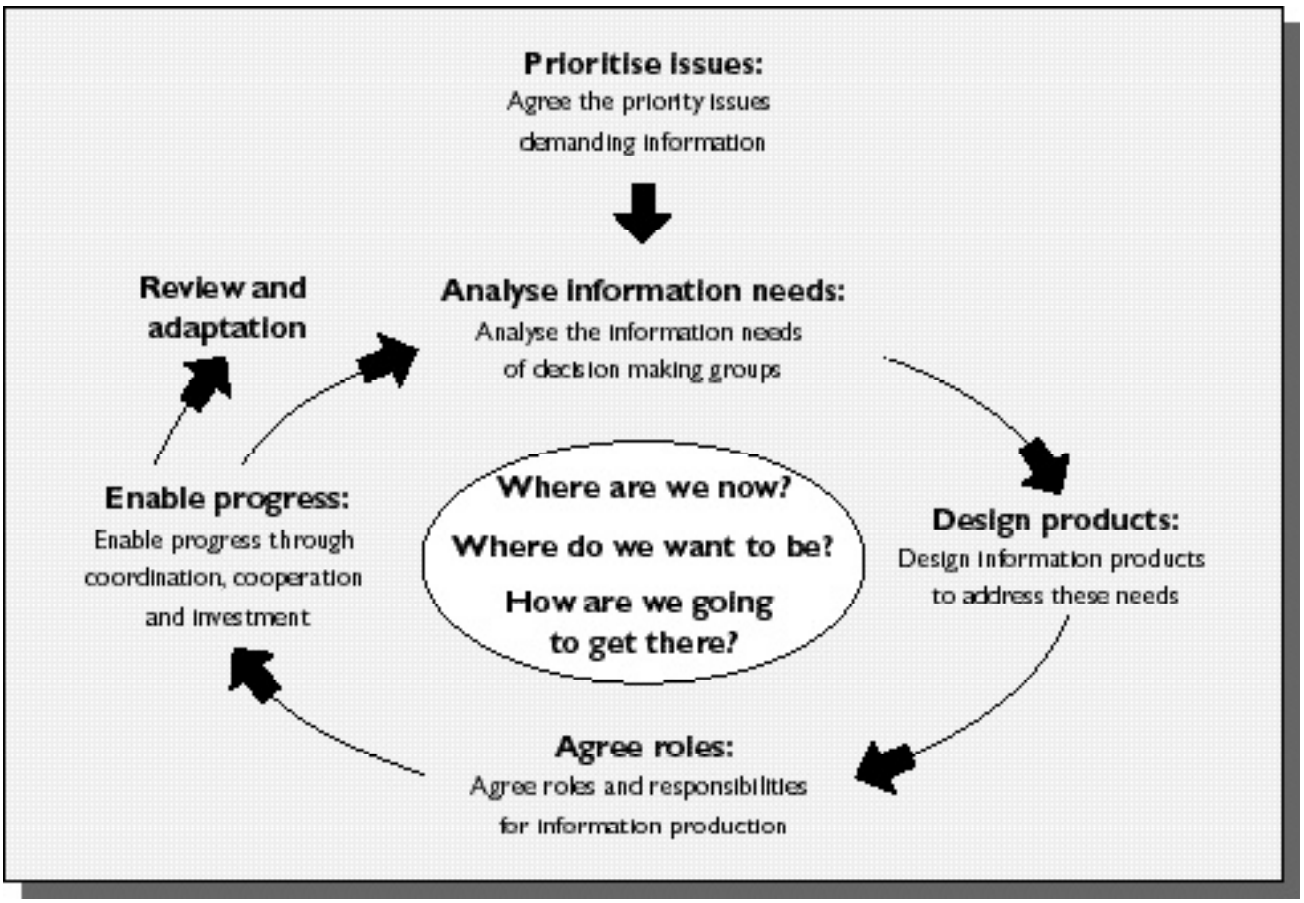
3. Design of information products—the best way to disseminate climate change information, facilitate its uptake and ensure effective implementation.

4. Network architecture—the organisation of regional networks to share climate change data and the different roles of partners in these networks.

5. Capacity building—identifying the strengths and weaknesses of networks and enabling all partners to meet their obligations under the Climate Change Convention.

The information cycle was used in this way to introduce the PICCAP national coordinators to a process which could be used to address climate change policy issues in a planned, yet responsive manner.

Figure 1 – The Information Management Cycle



3.0 Information Needs Analysis

Thursday 29 January 1998 (10:30 – 12:00)

The workshop participants were introduced to information needs analysis as a constructive dialogue between information providers and users, which aims to determine what information is necessary to help users achieve their goals. The importance of information needs analysis in achieving a consistent, mutually-agreed set of information objectives, and in acting as a basis for information product design was stressed. A step by step approach was adopted in explaining how key issues are identified in a general context and that this process was largely completed for PICCAP with the publication of the PICCAP Country Team Integrated Programme Three-Year Work Plan. The ways in which a thorough information needs analysis can improve cost-effectiveness (the earlier that needs are identified, the more easily and cheaply they are addressed), efficiency (the needs of different groups often overlap) and promote partnerships (between information providers and users) was illustrated and discussed.

The PICCAP national coordinators received an overview of different methods of information gathering (questionnaires, interviews, brainstorming, literature search), analysis (stakeholder and problem tree analysis), consensus building (visioning exercises, workshops, working groups,) and consolidation (process modelling).

3.1 Recommendations

1. Personal interviews are the most effective means of gathering information across the Pacific given difficulties in communication and the low response rate to questionnaires but participants recognised that the high cost of travel would most probably restrict them to cheaper options.

2. Thought should be given to methods that would integrate traditional knowledge with conventional, modern, scientific information.

4.0 Information Needs Analysis for PICCAP National Coordinators

Thursday 29 January 1998 (13:30 – 17:00)

4.1 Mitigation

Using the PICCAP Country Team Integrated Programme Three-Year Work Plan as a guide this afternoon was devoted to discussing the information needs of the Mitigation Objective (which is to be completed between April 1998 and April 1999). The range of options and issues for mitigation of greenhouse gases were identified at a very broad level and categorised into the six UNFCCC recognised sectors of Energy, Forestry, Waste Management, Agriculture, Industrial Processes and Solvents.

4.1.1 Energy: Energy Production

There is a pressing need to study sources of renewable energy. Solar energy is best developed in Tuvalu. It is used in Nauru and Vanuatu, and the Cook Islands have a pilot solar power project. In traditional economic terms, solar energy is more expensive than non-renewable sources of power. The workshop recognised the need to shift emphasis onto the full environmental cost of electricity production from fossil fuels. Wind technology is advanced and already competitive with fossil fuels but at present it is not used in the Pacific. Two islands in Vanuatu are powered by hydro-electricity and profits from this fund solar energy in other islands. This works because of a lack of competition. Wave power is not a realistic option anywhere. There is a need for information on different renewable energy schemes—especially an economic analysis—and for information to be made freely available. For example, in the Cook Islands economic information is held in the Prime Minister's and Energy Departments but the public has no access to it. If such information was freely available it could support decisions to switch from fossil fuels to renewable energy production.

4.1.2 Energy Efficiency and Conservation

Clearly energy efficiency and conservation practices serve to reduce the emission of greenhouse gases. The workshop discussed the status and information needs of energy efficiency and conservation practices in PICCAP nations.

What is being done in the region to promote energy conservation and efficiency?

- Tuvalu encourages wind sailing as a means of transport between the islands instead of using outboard motors.
- In the Cook Islands, conservation is achieved through fuel shortages and because electricity is expensive (45c/kwh).
- The Cook Islands offer a tax concession on solar hot water heaters.
- Oil from Vanuatu is recycled in Fiji but the recycling plant in Samoa suffers from a shortage of supply and international conventions restrict the transport of waste oil.
- Small Island States have produced a paper for the Forum on the energy sector.

Most countries include energy efficiency in their energy plans, so what are the information issues which are constraining the implementation of these plans?

- Information comes through tied aid and only from companies designated by aid agencies.
- Information is provided in a disjointed way.

What information is needed?

- The benefits of using different types of more efficient engines.
- The feasibility of recovering energy from waste material.
- Design and fabrication of energy efficient buildings and lighting systems.
- How much energy is presently being derived from biomass (e.g. logging, sugar by-products).
- Methods to reduce dependence on fossil fuels—for example some countries are investigating the production of methane from pig waste.

- Use of gas as an energy supply—public education would be a priority because there is a common perception that gas is dangerous.

4.1.3 Forestry

Forests are recognised by all the PICCAP nations as being a critical sink for greenhouse gases, especially carbon dioxide. However, much of the information which is needed to assess the role of forests in absorbing some of a country's greenhouse gas emissions is not available. The following sectoral information needs were discussed:

How much forest cover remains? Which areas will still be there in 10 years time?

- Samoa needs to know the rate of deforestation, amount of lumber used in milling. The last assessment was 1985. There was an attempt to do another assessment after the 1992 cyclone.

- In Tuvalu the State of the Environment Report has data on total land area under forest. The State of the Environment Report is updated annually.

- In the case of big island countries, inventory is a problem because of the large number of islands (> 80 in Vanuatu) and large distances between them.

- The cash economy leads to a conversion of lands for various industries.

- Remote sensing may be needed if it is perceived to be important to know the extent of forest cover. Visual data provide the most effective way of influencing politicians in many parts of the Pacific and therefore more reliance should be placed on reports with a high visual content (especially maps).

How has forest cover changed since the early 1990s?

- GIS and aerial photogrammetry have been used to facilitate the process in Samoa. Coverages were divided into classes which were subsequently used for coastal protection work.

- GIS was used to help Nuie analyse old data on forests. The analysis revealed that 40 per cent had disappeared in five years. This highlights the need to raise public awareness of the importance of replanting felled forests.

- There is a need in Kiribati to assess the extent of vegetation and changes over time (for example coconut trees).

How well-known are the factors driving deforestation?

- Cyclones accounted for 80 per cent of deforestation in Samoa. Other contributions are the large-scale logging operations. At the national level there are some data but this information has not been aggregated at a regional level.

- The complex land tenure issues in Vanuatu have led to significant growth in the beef industry. Individuals have been signing agreements with loggers to run cattle.

- Nauru will begin a replanting programme following the rehabilitation of the mined areas.

GIS has been used to settle land ownership disputes. However GIS capacity is lacking in some countries. GIS may be an appropriate technology but cannot be used to determine boundary lines where there are no physical boundaries, where the ownership system is dynamic and where there is a hierarchy of ownership, such as in Papua New Guinea. It is difficult to add social and economic variables into the GIS. The Land Information System in Vanuatu is dependent on individuals not the government. There are many examples in Vanuatu that highlight the importance of stakeholders being part of the decision-making process.

4.1.4 Waste Management

Waste management is a big issue for the Small Island States in the Pacific. Solid waste is frequently disposed of through incineration, producing greenhouse gases directly, or in landfills where the organic component ultimately decomposes and produces greenhouse gases. The relative merits of waste disposal via incineration and landfill need to be studied in the context of climate change, given that there may be as much methane produced from landfills as carbon dioxide. Human waste is a critical problem in Samoa where septic tank sludge is disposed of in pits and may contaminate ground water supplies. In Vanuatu, as in many other Small Island States in the Pacific, both municipal towns and rural areas have waste management problems because the population has increased without attendant town planning. The magnitude of the problem is such that it presents a challenge to governments to control. The following information needs were discussed:

Why aren't waste management studies implemented?

- Implementation requires more resources than the countries have available. Studies of ways to convert municipal waste to useful forms of energy do exist but usually they do not identify sources of funding to implement the proposals.
- Studies are often carried out in isolation to one another (e.g. a municipality is only responsible for its own area). There is a lack of coordination between the various government departments.
- In the Cook Islands, the government and public perception is that there is no problem with waste, although NGOs are concerned. Awareness-raising is needed. Previously there was a recycling programme but there was no follow-up or policing. In general, public awareness options have not been explored.
- Composting is not a wide spread practice because leaves are perceived as rubbish material.

Is there waste water recycling?

The issue of waste water is included in the Strategic Action Programme for International Waters of the Pacific Islands Region. In the Cook Islands and elsewhere waste water recycling is very expensive and not viable when the size of the population is considered.

4.1.5 Solvent Use

The IPPC has no guidelines for taking an inventory of solvents and the national coordinators could not see the relevance of either solvent use or production to their countries.

4.1.6 Industrial Processes

Generally the nations represented at the workshop have a low industrial base and so this sector is not as relevant to PICCAP as others. However, the manufacture of cement may be an issue for some countries, as is the mining of phosphate in Nauru, and soda ash and breweries in others.

4.2 Summary of the Group Discussion on Information Needs for Mitigation Activities

The priority information needs for the six mitigation sectors above were identified by the national PICCAP coordinators, firstly on a country by country basis, and later generalised for the Pacific region. This regional analysis can be implemented in ways to reduce national emissions of greenhouse gases or increase uptake by sinks in order to reduce the risk of climate change. The results are summarised in Table 1.

Table 1 reveals that regionally there is a need for agricultural and forestry data to allow PICCAP nations to carry out their mitigation activities. Four countries ranked waste management as an important information need but amongst the countries represented at the workshop this was considered as being less important than either agriculture or forestry data. Kiribati was something of an exception in considering its information needs for mitigation to be well supplied in the agriculture and forestry sectors. It was the only nation to highlight the energy sector as being one in which more data were required for mitigation purposes. Aside from this, the emission-producing sectors of energy, industry and solvents were either sufficiently well understood and countries did not require any further data for mitigation activities, or they were irrelevant to the country in question (Cook Islands, Tuvalu).

Table 1. A summary of the information needs of 8 PICCAP countries for the climate change mitigation activities, due to be completed in April 1999. N/A = not applicable. After three hours of debate on each of the six mitigation areas the PICCAP national coodinators were asked to prioritise the information needs for mitigation in their country. The first and second priority areas have been shaded to draw attention to those areas where information needs are the greatest.

	Agriculture	Forestry	Waste	Energy	Industry	Solvents
Cook Is	2	1	3	4	N/A	N/A
Fiji	2	1	3	4	5	6
Kiribati	4	3	2	1	N/A	N/A
Niue	1	5	2	6	3	4
Samoa	1	5	2	6	3	4
Solomon Is	2	1	3	4	5	6
Tuvalu	2	1	3	4	N/A	N/A
Vanuatu	5	1	2	3	4	6

5.0 Design of Information Products for National Implementation Plans

Friday 30 January 1998 (09:00 – 10:00)

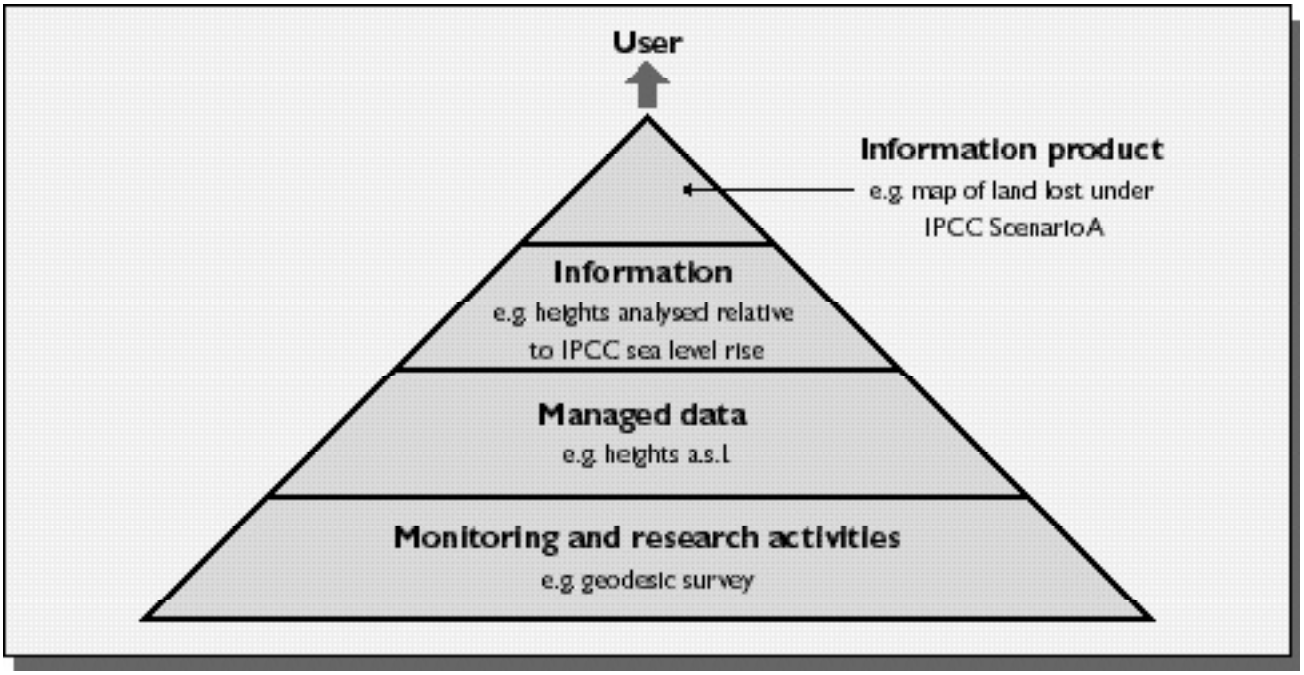
This presentation followed on from the previous day's discussion and analysis by illustrating how different products can be designed for different information needs, and by emphasising the important factors to be considered so that information can be used effectively. The role of information products in helping users achieve policy and management goals, clarifying difficult decisions and bridging the gap between scientific research and policy-making was illustrated. In multi-lingual countries such as the Solomon Islands and Papua New Guinea language is particularly relevant but the cost and practicalities of translation, also the inadequacies of some local language to express complex technical issues, need to be considered carefully. It was also stressed that it is government's responsibility to ensure that information, especially that from foreign firms of consultants, is provided in a form in which it can be easily assimilated, understood and used by decision-makers.

These principles were illustrated with reference to one of the six alternative IPCC scenarios for climate change and sea level rise. Scenario A (that there will be a mean global warming of 2.5 °C—range 1.7 to 3.8 °C—and a mean global sea level rise of 48 cm—range 15 to 90 cm—by the year 2100) is a good example of a climate change information product. It distils a vast and complex process of data collection and analysis occurring across many different and technical disciplines (e.g. meteorology, climate science, computer modelling, statistics, oceanography) into a single, easily understood guideline which can be used by decision-makers when planning for the possible effects of sea-level rise due to global warming. The process of summarising data in this fashion to render it easily understood and usable to decision makers was graphically illustrated by the information pyramid (Figure 2).

5.1 Recommendations

1. While all the PICCAP coordinators acknowledged the advantages of web-based Internet information, four of the 12 countries had access to electronic communication. There is a need to find alternative means of disseminating information produced through the PICCAP programme.

Figure 2 – The Development of an Information Product for Climate Change



6.0 Information Needs Analysis for PICCAP National Coordinators

Friday 30 January 1998 (13:30 – 16:00) Group Discussion

6.1 Vulnerability and Adaptation Assessment

Using the PICCAP Country Team Integrated Programme Three-Year Work Plan as a guide this afternoon was devoted to discussing the information needs of the Vulnerability and Adaptation Assessment Objective (which will run from 1 February 1998 to 1 April 1999). Sectors of the economy, significant geographical areas and key ecosystem components that may be at risk to climate change were divided into five categories commonly accepted by the IPCC for Adaptation and Impact Analysis.

These are:

- Coastal Zones.
- Human Health.
- Water.
- Food Security.
- Urban areas.

6.1.1 Coastal

What information exists that could be used for Vulnerability and Adaptation Assessment? What are the information gaps?

- Kiribati needs information on heights above mean sea level and data on the frequency of waves, directions and heights of waves as they come up to the beach to plan for the effects of coastal erosion.

- Nauru needs information on beach profiling, heights above mean sea level, infrastructure development policies, vulnerable areas for storm surges, coastal erosion as justification for set back policies.

- Cook Islands do not have much information on the low-lying atolls. These islands need to be electronically mapped and their coastlines digitised.

- Tuvalu needs data on the effect of climate change on coastal fisheries, fish nurseries and aquaculture.

- Samoa needs information to plan protection of its roading infrastructure. It needs to identify high risk and high hazard zones (e.g. infrastructure life spans) and establish a process of monitoring, maintenance and identification of impacts of sea-level rise on coastal infrastructure.

- Samoa also needs information on the impact of sand mining and the impact of seawalls.

- On Nauru, tree felling has accelerated erosion. Information on the need to replant is needed.

- Cook Islands need information on the dynamics of sediment flow.

In Tuvalu plants have been used to combat the effects of coastal erosion. A list of species suitable for the ocean and lagoon sides of islands is available. There is a need to disseminate the results of this work to other PICCAP countries and in recognition of this the Tuvalu national coordinator agreed to make his results available to the group.

6.1.2 Human health

- Most PICCAP countries need more information on water quality.

- Consideration needs to be given to the location of hospitals and access to hospitals. For example, in the Cook and Solomon Islands the hospital is located along the beachfront.

- There are many examples of the contamination of coastal waters in PICCAP countries. Reports have been received that people in the Republic of the Marshall Islands are eating poisoned fish due to sewage seepage along the foreshore. Further reports also indicate that there is ciguatera poisoning in Nauru; lead poisoning in Suva; and adverse health effects possibily due to cadmium in Vanuatu. The effects of sea-level rise on these already contaminated coastlines is completely unknown.

- Coastal developments don't have proper waste management strategy in place (e.g. inappropriate sewage plant locations).

- Sea water quality should be monitored (*E. coli* counts etc).

6.1.3 Water

Information needs were identified for:

- How rising sea levels and larger waves will affect freshwater supplies (especially groundwater) and the effects on humans, crops and livestock.
- The practicalities, logistics and costs of desalination.
- Water conservation measures—the need for effective public and tourist education.
- Water supply during drought periods.

6.1.4 Food Security

This sector cuts across all others with social and economic contexts. Information is needed on:

- The loss of agricultural land and subsequent affect on food supply.
- The effect on agriculture e.g. the sequence and rotation of planting may be affected by changes in climate.
- How much is produced in country and how much is imported – at the moment most food (coconuts, taro, fish, breadfruit) is produced locally therefore climate change impacts may lead to increased costs in importing food (rice and canned meat).

Sectors should be examined in relation to each other during vulnerability and adaptation assessment. Concern was expressed that there are not enough resources to cope with such a large environmental issue. Coordinators stressed that it was important to focus what resources do exist on core elements of the issue.

6.1.5 Urban Areas

People may need to be rehoused and urban infrastructure relocated at great cost as a result of sea level rise or the increased frequency of storms and cyclones. Information needed to assess the vulnerability of PICCAP nations to this is generally lacking and includes:

- Population density and growth in marginal land and low-lying areas near to cities e.g. in the Solomon Islands there are settlements near river mouths but data on the disposal of wastes and mosquito-borne diseases are not available. How many people are at risk of being adversely affected?
- Which areas would be flooded and what type of housing/building would be affected? The uncontrolled construction of buildings without proper planning, squatter settlements and urban drift makes this an exceedingly difficult question to address in many cases, though limited data are available in some countries (e.g. in Kiribati it is possible to identify houses with no toilet facilities).
- Urban risk analysis is needed in every PICCAP country.
- Much of island cities tend to be built on reclaimed areas. The stability of this land in the face of climate change is an issue. A risk analysis of reclaimed areas is required.

Other information needs

- There is a need for information which can be used to raise the awareness of people living in high risk areas.
- In many PICCAP countries there are major differences between urban and non-urban areas. Information for an urban area may not be relevant for a non-urban area.
- Seats of government tend to be located in high population areas. A study of the effect on the political and legal structure of societies is required.
- Can cities be moved inland? Is the infrastructure flexible enough to permit this?

6.2 Summary of the Group Discussion on Information Needs for Vulnerability and Adaptation Assessment

The priority information needs for the five vulnerability and adaptation sectors detailed above were identified by the national PICCAP coordinators, firstly on a country by country basis, and later generalised for the Pacific region. This regional analysis can be implemented in ways to focus research and data collection in assessing vulnerability of each country, and the region, to the effects of climate change. The results are summarised in Table 2.

The need for information to assess the vulnerability of PICCAP nations to the effects of climate change is quite clear. As Table 2 shows most information is needed in the food security and coastal zone sectors. Only the national coordinators of Samoa, Solomon Islands and Niue considered information in the other sectors to be of high priority (human health, urban areas and water supply respectively).

Table 2. A summary of the information needs for climate change vulnerability and assessment activities. These assessments are to be started by nine PICCAP countries in February 1998 and be completed in April 1999. After two hours of debate on each of the five vulnerability and assessment areas the PICCAP national coodinators were asked to prioritise the information needs for vulnerability and assessment in their country. The first and second priority areas have been shaded to draw attention to those areas whose information needs are the greatest.

	Food Security	Coastal Zones	Human Health	Urban Areas	Water Supply
Cook Is	2	3	1	5	4
Fiji	2	1	5	3	4
Kiribati	1	2	4	5	3
Nauru	2	1	3	5	4
Niue	1	4	3	5	2
Samoa	1	3	2	5	4
Solomon Is	5	1	4	2	3
Tuvalu	2	1	5	3	4
Vanuatu	2	1	4	5	3

7.0 Workshop Conclusions

The discussion of priorities helped build important ties between the coordinators and resource people as well as sensitising them to the role and value of a range of information useful for implementing the objectives of PICCAP. The outputs of the pilot sessions will be used to develop case studies and recommendations relevant to the South Pacific region, and in particular the PICCAP programme, which can be incorporated into the existing WCMC Information Management Training Handbook Series as well as other information management training materials.

Throughout the workshop, participants envisaged that there would be a need to:

- manage an increasing number of projects.
- establish a resource base and identify institutions and expertise in the region for implementing PICCAP.
- take a more strategic approach to PICCAP.
- extract and receive information from individuals and committees.
- develop links with the National Environmental Management Strategies (NEMS).

As this was a pilot training workshop, condensed from five days to two days, it was too early in the process to develop comprehensive information products for each of these needs. Nevertheless, it was realised that the Information Management Cycle can clearly help facilitate and structure these requirements.

8.0 Workshop Assessment

All participants (including the eight national PICCAP coordinators) completed an assessment form at the end of the workshop. A copy of this form is attached after this summary of the key themes and suggestions provided by the participants.

8.1 Participant details

Contact details are provided on the attached participants list. The 12 participants described their occupation variously as administrators (4), managers (3), institutional directors (2), scientists (2), technicians (2) and consultants (1). Whilst most participants indicated that their subject area was either conservation or environmental science the range was extensive, covering agriculture, biology, botany, information management, social science, traditional knowledge, marine affairs and training. Two participants indicated that they worked as meteorologists and two exclusively as PICCAP national coordinators. Most (6) represented governmental agencies but the commercial and academic sectors were represented; there was also one participant from a non-governmental agency and another from an intergovernmental agency.

8.2 Workshop rating

Summary of Workshop Assessments

	N = 11
Quality of instructions	1.6
Quality of workshop content	2.0
Range of topics covered	2.4
Relevance to your work	2.1
Quality of written materials	1.7
Overall average	1.9

1 = excellent 2 = very good 3 = good
4 = fair 5 = poor

Of the 11 participants who completed this section of the assessment 10 rated the quality of instruction as either *excellent* (4) or *very good* (6), and 9 participants considered the quality of workshop content either *excellent* (2) or *very good* (7). The range of topics covered was necessarily quite narrow given the constraint on time imposed by a two day workshop and this was the lowest ranking category. Despite this the participants seemed generally satisfied with what was achieved (5 considered the range to be *very good*; 4 *good*). Overall the workshop was considered by the participants to be *very good*.

8.3 Did the workshop fulfil stated goals and needs?

Summary: the majority of participants (10 out 12) thought that the workshop had succeeded in providing a framework for managing the information which will be generated under PICCAP and explaining the importance of doing so early in the programme's lifetime. For example one participant stated that the workshop exceeded because *'the PICCAP activities will be based on awareness at all levels ranging from a traditional subsistence farmer in the rural area to policy-makers*'. The only concern expressed in this section was that more could have been achieved given more time. Comments such as *'yes, except that we probably did not have time for more discussion*' reflect this but were put into perspective by another participant who said *'this was a pilot project…it fulfilled many expectations…with improvement this project will achieve our (PICCAP) information goals and needs satisfactorily*'.

8.4 What aspects of the workshop did you like the most?

The participatory approach of the group discussions and exercises were clearly the most successful component of the workshop, particularly the flexibility of these modules, the interaction between all participants and the opportunity to build links with other PICCAP national coordinators which these sessions offered. The results of these group discussions (the prioritisation of information needs for (i) the vulnerability and adaptation assessment, Table 2, and (ii) the mitigation components of PICCAP, Table 1) were less useful than the method of obtaining them. Although not explicitly stated on any of the assessment forms the feedback received by the WCMC facilitator was that it was too early in the PICCAP programme for the national coordinators to be completely sure of their information needs.

8.5 What aspects of the workshop did you find least useful?

Nine participants (including all the PICCAP national coordinators) stated that all aspects of the workshop were important for them (or did not answer this question). As one delegate wrote '*None. Information management is a new area for me and [I] found the contents extremely interesting.*' The time allotted to the information management component of the week-long workshop was again highlighted as being insufficient by one participant (*'unfortunately the preparation time was not enough*') and another felt that it was not always clear how the concepts being presented were related to the information management needs of PICCAP.

8.6 Comment on the length of the workshop

Six of the participants would have liked a longer course (one recommended an extra day, another thought a full five days would be a minimum), five thought the length to be about right. One participant considered that too much time out of the week-long workshop had been allotted to information management saying *'this component should have comprised 25 per cent of the total time allocated to the larger planning workshop, though this does not reflect on the quality of this component*'.

8.7 Comment on how you see this workshop contributed to:

8.7.1 Improving decision-making and information management processes in your institution and/or networks within which you operate

In this regard the greatest contribution the workshop had to offer was in providing a framework and overview of information management in support of informed decision-making. Supporting remarks included the following *'It has helped me to be aware of the need for proper management of information and most importantly that the end user understands the information*' and *'the two days [information management] workshop will certainly be of great value to my current programme of work both at the policy level and [in] implementation*'.

8.7.2 Assisting in meeting reporting needs of conventions such as the United Nations Framework Convention on Climate Change

All participants thought the workshop would assist in their efforts to report to the United Nations Framework Convention on Climate Change, in the view of one participant *'especially when doing the vulnerability and adaptation assessment*'. Selected comments from participants on specific ways in which the workshop would assist them include help and training in *'reporting not only to UNFCCC but to other relevant departments and organisations*' and *'managing and prioritising information needs*' and methods for identifying *'gaps in datasets and … possible remedial exercises*'.

8.8 What suggestions do you have for improving the effectiveness of this type of workshop?

There was a general consensus that the effectiveness of the workshop could have been improved with more information of direct relevance to the issues of climate change in the Pacific. Two suggestions were made on how this might have been achieved. Firstly, that national coordinators could have made presentations on how limitations in information were affecting their abilities in meeting the national obligations under the Climate Change Convention. Each country was effectively invited to do this under the group discussions but one participant considered that a formal series of presentations would have a better approach. Secondly, PICCAP was called upon to provide more information to the workshop facilitator to work into case studies to illustrate different points. Three participants suggested that the workshop be lengthened in order to allow more time for group discussions. Four participants had no suggestions.

8.9 What suggestions do you have for additional subject areas for future training workshops?

Eight participants had no further suggestions on additional subject areas for future training. The other participants suggested that future training workshops include sessions on:

- methods for managing traditional knowledge as a distinctly different type of information to the

data derived from modern scientific investigation.

- the roles of end-users in information management.

- the practicalities of managing information electronically over the Internet.

One participant took this opportunity to stress again that the training materials should be adapted more closely to the subject of climate change.

9.0 Workshop participants assessment form

SPREP/PICCAP NATIONAL COORDINATORS MEETING INFORMATION MANAGEMENT WORSHOP - 29–30 January 1998, Apia, Samoa.

The World Conservation Monitoring Centre (WCMC) in partnership with affiliated organisations throughout the world, is meeting a need for training in the management of information for post-graduates, trainers and mid-career professionals, working in biological research, natural resources management and conservation by providing workshops in Biodiversity Information Management.

In association with SPREP through PICCAP, WCMC hopes that you have benefited from this Workshop, and would greatly appreciate your comments in an ongoing effort to improve future initiatives.

Please read all the questions before you start. When finished, please ensure that the form is given to the course coordinator. Thank you for your time.

PART 1

1. Name (optional): .....

2. Address (optional): .....

   .....

   .....

3. Please indicate your occupation:

☐ Administrator
☐ Director
☐ Consultant
☐ Information Manager
☐ Manager
☐ Scientist
☐ Student
☐ Technician
☐ Other (please specify) .....

4. In which subject area do you work? (Tick a maximum of 2 boxes)

☐ Agriculture
☐ Biology
☐ Botany
☐ Conservation
☐ Economics
☐ Environmental Science
☐ Geography
☐ Information Management
☐ Social Science
☐ Taxonomy
☐ Zoology
☐ Other (please specify) .....

5. At which type of organisation do you work?

☐ Commercial
☐ Government agency
☐ Intergovernmental agency
☐ Non-governmental agency
☐ University/Academic
☐ Other (please specify) .....
☐ Not applicable

PART II

6. Please rate the following aspects of the workshop

	Excellent	Very good	Good	Fair	Poor
Quality of instruction					
Quality of workshop content					
Range of topics covered					
Relevance to your work					
Quality of written materials					

Any additional comments? .....

PART III

7. Did the workshop fulfil stated goals and needs? Please comment.

.....

8. What aspects of the workshop did you like the most?

.....

9. What aspects of the workshop did you find least useful?

.....

10. Please comment on the length of the workshop. Did you think it should be:

☐ Shorter? ☐ Longer? ☐ About right?

Any additional comments: .....

11. Please comment on how you see this workshop contributing to:

- improving decision-making and information management processes in your institution and/or networks within which you operate.

.....

- assisting in meeting reporting needs of conventions such as the *United Nations Framework Convention on Climate Change.*

.....

12. What suggestions do you have for improving the effectiveness of this type of workshop?

.....

13. What suggestions do you have for additional subject areas for future training workshops?

.....

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Apia, Samoa. 29–30 January 1998.

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