

# APPENDIX 6

## STAR CHAIR'S REPORT TO COUNCIL

Madam Chair, Excellencies, Distinguished National representatives and Delegation members, representatives of Institutions and Organisations, Ladies and Gentlemen.

### I. Introduction

Thank you for this opportunity to formally report on STAR's activities. As many people are here for the first time and may not be familiar with STAR, I will briefly outline its role.

STAR is SOPAC's Science, Technology and Resources Network and it acts as an interface between the SOPAC Secretariat and its member nations and the international scientific community. It does this in several ways. Every few years, an international scientific workshop or meeting is either convened by STAR, or held under its auspices, on a broad theme relevant to the SOPAC region. STAR members also correspond and tender advice during the intervening periods.

Each year, a meeting at which scientific papers are presented and discussed, and thematic Working Groups meet, is held in prior to this Annual Session of the SOPAC Governing Council. This year, the 20<sup>th</sup> meeting of STAR was held from September 19<sup>th</sup> to 22<sup>nd</sup> at the Niue Sports Club, and I thank that organisation for the use of their facilities.

### II. STAR Presentations

The theme of this year's STAR meeting was "Towards linking geoscience and policy for Pacific Small Islands sustainable development".

During the meeting, 29 scientific papers and one longer lecture were presented orally and a number of others by the posters you see displayed upstairs. Abstracts of these are published in SOPAC Miscellaneous Report 549. As is always the case for STAR meetings, and despite many members being unable to attend this year, the information presented covered a very broad range and participants included representatives from disciplines other than earth science. I recommend the volume of abstracts as a guide to the range of material covered and

as a source of much useful information. (Editor's Note: A CD-Rom of all presentations at the STAR 2003 Session is available from the SOPAC Secretariat on request).

In deference to the wishes of our hosts, the STAR Meeting commenced with a session devoted to Water and Other Non-living Resources and then papers were grouped into the themes of Tectonics & Geology, Hazards, Information Technology & Remote Sensing, Habitats, Oceans & Coastal, and Science & Policy. The eight sessions were chaired by John Collen, John Bonato, Baskar Rao, Paul Fairburn, Gary Greene, Loren Kroenke, Keu Mataroa and Naomi Atauea.

Let me briefly outline the scope of the presentations for you, to indicate the variety. During the session on fresh water and other resources, speakers examined community participation in the SOPAC Community Lifelines Programme, the impacts of cyclones on drinking water and means of extracting water from humid atmosphere. Deep-sea mineral exploration and the controls on the formation of deep-sea minerals were discussed.

During the Tectonics & Geology session, papers covered aspects of the geology of Hawaii, the Hawaii-Emperor chain, and mid-ocean rises. Hazards papers summarised the CHARM project, looked at climate change in coastal regions, and discussed the relevance of climate forecasts to water resource management. As has been the case in recent years, the applications of Information Technology permeated much of the meeting but the time specifically devoted to this concentrated particularly on the application of GIS techniques for mapping for a range of civic purposes.

The Habitats, Oceans & Coastal papers were also, as usual, wide-ranging and included papers on habitat investigation, study of lagoon food webs using stable isotopes, measuring sea level change, discussion of the sediments and frameworks of atolls, and aggregate utilisation.

An innovation this year that was foreshadowed in the theme for the meeting was the inclusion of two sessions devoted to Science & Policy. These were intended to summarise aspects of past and ongoing scientific research in the re-

gion and to suggest how this might be of value to policy-makers. Papers included the sustainable use of aggregates, uncertainties in our knowledge of aggregate formation, the future development of PNG, discussion of policies regarding water management, Global Ocean Observing Systems and ocean policy management, and finally the status of geoscience research as related to development.

Finally, the STAR meeting finished with a lecture dealing with global resource issues. This presented a chilling scenario of what may lie ahead in the very near future and gave suggestions as to how Pacific island nations might act to mitigate the worst effects of global resource depletion.

### III. Working Groups

In addition to the scientific presentations, three working groups also met. These working groups offer an opportunity for STAR delegates to bring to the attention of Council items of particular scientific and technical importance to the region.

This year the Water, Energy, Hazards, and Habitats & Coastal working groups met. I will report briefly on their main recommendations here and the full reports with supporting arguments for the conclusions are appended.

The Water Working Group made the following recommendations:

- that CLP build upon its initial activities with the US-NZ Climate Accord Partnership, which has now developed into the US-NZ-Aus Tri-lateral Climate Partnership Programme.
- that the recent G8 decision to support an Earth Observation Summit provides a global driver for the implementation of such regional programmes as Pacific Islands Global Climate Observation System (PI-GCOS) and its sub-components relevant to the CLP including Pacific Hydrological Cycle Observation System (Pacific HYCOS). SOPAC is recommended to remain engaged in PI-GCOS and actively develop the Pacific HYCOS initiative.
- The working group acknowledged the initiative taken by Papua New Guinea in using the Pacific Regional Action Plan on Sustainable Water Management as a framework to develop a national level strategic approach to sustainable water management, and recommends to other SOPAC Member Coun-

tries that, as appropriate, they note the potential contribution that the Plan could make to the preparation of individual national development plans.

- The WWG identified the Caribbean regional water initiative known as the White Water to Blue Water Partnership Programme as having considerable value to the Pacific region. The WWG recommended the CLP use the Joint Caribbean-Pacific Programme for Action on Water & Climate (JPfA) to strengthen the existing partnership with the Caribbean on integrated watershed and coastal area management (IWCAM) approaches, including knowledge, data and capacity building transfer. Specific opportunities were recognised for the development of such a programme in the US affiliated north Pacific.
- The WWG expressed its concern at the existing low levels of staffing and capacity within the CLP Water Team. It recommended the CLP to maximise opportunities to increase CLP capacity during the Commission on Sustainable Development two year focus on water in 2004-2005. It further recommended the CLP to explore alternative approaches to augmenting capacity including secondments, job-sharing and outsourcing arrangements.
- WWG raised concerns over the lack of water specialists present in STAR sessions and the lack of input therefore available to contribute to programme review.
- WWG mindful of the CSD 11 decision to focus on Water & Sanitation in the years 2004-2005 recommends to CLP and to Member States the need to use this period of increased opportunity to secure future water initiatives at the regional and national level.
- The WWG recommended to CLP to explore opportunities of linking wastewater and sanitation activities to the new regional waste initiative, announced at the recent Pacific-Japan Leaders Summit (PALM) meeting in Okinawa, and currently implemented by SPREP.

Members of the Energy Working Group:

- Noted the urgent need for PICs to consider and plan for the design, development, integration and use of alternate sources of energy as the currently available resource of transportable fuels (in particular fossil fuels) are likely to become increasingly uneco-

nomical and, in some cases, will become depleted within the near future.

- Noting the technical publications already prepared and published by SOPAC and those in final draft, requested that SOPAC further take a lead role in the identification and dissemination of information on new and developing technologies including information where research is being carried out on relevant alternate energy sources and development that are relevant for adoption within the region.
- Endorsed the proactive approach that SOPAC has taken in respect to the ongoing resource assessment in wind, wave, ocean thermal, geothermal and biomass, and encouraged aggregation and publication of information on coconut fuel.
- The EWG recommended that SOPAC continue to monitor the progress with the research and development of hydrogen fuel cells and other potential developing energy technologies.
- Identified the need for Pacific Island Countries and Utilities to work collaboratively with SOPAC and other CROP organizations and other associations such as the Pacific Power Association (PPA) in providing information that can be circulated either through the Pacific Islands Newsletter (PEN) or other appropriate media and e-mail.
- Encourage PIC's to promote and implement demand and supply side management and sustainable energy developments to reduce wastage and improve efficiency.
- It was noted that the EU Project proposed to convene a central workshop to bring technicians from PICs together that will assist in providing training and support to EU/ACP Member Countries in GIS and Remote Sensing and encourages a particular emphasis for the utilities (power / water / telecom / PWD).
- The EWG recognised the need for SOPAC to strengthen links with the Utilities and the PPA, in particular in the dissemination and sharing of technical information.
- Finally the EWG noted the need to increase the participation of technical and scientific component at STAR relating to energy.

The Hazards Working Group recognised that Comprehensive Hazard and Risk Management, or CHARM, is an important decision-making tool to assist sustainable development and risk management in developing countries.

The group recommended:

- That a whole-of-government comprehensive hazard and risk management approach be integrated into national sustainable development planning processes. This broader holistic approach goes beyond the traditional disaster management focus and offers the opportunity for more robust forward investment decisions for sectors impacted upon by natural and human-induced hazards.
- Greater government commitment is needed in utilising relevant science to guide decisions, and multi-criteria tools need to be refined and promoted for national usage.
- That the next step to ensure successful implementation and evaluation of the CHARM regional initiative requires the model to be successfully piloted in a selected member country. The Working Group suggested that the island of Efate in Vanuatu would be appropriate.

The Habitats and Coastal Working Group discussed the usefulness of marine benthic habitat mapping and the necessity of this methodology for addressing the ecology component of SOPAC's Cooperate Plan of 2003-2004. Biologists participating in this working group pointed out that ecology includes the interaction between the living and non-living processes, thus demonstrating connectivity between geosciences and biology. The group recommended that:

- A marine benthic habitat-mapping workshop be organized for the SOPAC region.
- Effort be made to process SOPAC backscatter data.
- A pilot marine benthic habitat-mapping project be done in Kiribati using multibeam data collected by SOPAC and including the processing of backscatter data and interpretation of marine habitats from these data.
- SOPAC geologists and biologists coordinate when undertaking coastal mapping to facilitate holistic science and increase the benefits of the surveys.

#### **IV. STAR Business Meeting**

**Officers:** As already reported, the STAR Business Meeting elected myself to continue as Chair of STAR for the coming year and gave me their approval to co-opt one or more persons as Vice-Chairs of STAR following this meeting.

TAG: The role of TAG was discussed during the Business Meeting. The Pacific community has an invaluable resource in the many experienced international scientists who attend the STAR and SOPAC meetings and form the Technical Advisory Group (TAG). TAG is a body established in the SOPAC Constitution (Article 8) with a “responsibility to provide advice requested by Council on the technical, scientific, training and research and other relevant aspects of the work of the Commission”.

I believe that this resource is not always used to its fullest during the Annual Sessions, partly because of the short amount of time available for participants to digest and comment on the highly detailed work programmes.

This has particularly concerned me as Chair of STAR for two reasons – first is the advantage to the Pacific community of obtaining such advice and second is the desire of TAG scientists themselves to use their skills for the benefit of the region. The latter is one of the important factors motivating delegates to attend the annual meetings.

A suggested mechanism to facilitate the provision of advice of TAG members to Governing Council will be addressed in Agenda Item 12 later this week. It should be stressed that STAR sees this as related to technical and scientific oversight only, and in no way affecting the programme review and approval process that is the prerogative of the member states. The aim is simply to enhance the work accomplished by SOPAC during the year and by Governing Council during its Annual Sessions.

The meeting agreed to the following statement:

- STAR scientists reaffirm their commitment to contribute timely scientific and technical advice on SOPAC’s work programmes to Governing Council by means of the Technical Advisory Group (TAG).
- They recommend that Council approve the instigation of a formal process whereby TAG members evaluate SOPAC’s work programmes in advance of the Annual Sessions, confer with programme managers, and make their conclusions available at the following joint TAG/Council sessions of the Annual Session.

### *Retirement of Director of SOPAC.*

The Business Meeting took the opportunity to thank the retiring Director of SOPAC, Alf Simpson, for his efforts on behalf of STAR and

its scientists over many years. The link between STAR and SOPAC is a fragile one and Alf’s breadth of geoscience knowledge, vision of the usefulness of all aspects of science, leadership and counsel have been a major factor in keeping the relationship alive. We all wish him well for the future. Thank you, Alf, and we hope for a similar relationship with your successor.

## **V. General Comments from Chair of STAR**

At this point, I would appreciate this opportunity to convey some personal impressions of this STAR meeting. The first is that this meeting has shown even more than previous ones the clear link between geology and biology in Pacific science. This has always been apparent to those of us studying the nearshore sediments and reefs, where we have living organisms building on a geological framework and then being affected by a mix of biological and geological processes to produce non-living resources. This year this concept was extended when we heard, and I use one example only here, of the biological controls on deep-sea metal deposition.

I would also like to mention that the clearly applied direction to much of the research that has always been a particular feature of STAR continues and is increasingly directed towards the provision of quality technical advice to member governments.

My final, and related, observation is one that I also made last year, when it was prompted by a remark from a colleague. He said, and I quote: “One of the reasons I trained as a scientist was a desire to help society. As a young scientist, I assumed that if I did good science, it would automatically end up in policy. But of course that didn’t happen”.

Anyone who attends STAR/SOPAC/Council cannot fail to be aware of the interaction between policymakers, planners, managers and scientists. What you have here is something that is quite unique but it is not necessarily permanent. However, given the nature of many of the issues and problems that will beset us all in the Pacific in the years to come, and of course given the nature of SOPAC as foremost a technical geoscience organisation, it is something that it is essential to nurture. In this respect, I have already mentioned the change of direction of STAR research presentations and I would also like to acknowledge the attendance of many members of national delegations at the

STAR meeting. We trust that you found the experience worthwhile and we welcome you to next year's meeting.

I had planned to make some of STAR accessible to all Council members by scheduling the Science and Policy sessions for Monday afternoon, after the arrival of the flight from Samoa. Unfortunately, the fates conspired against us there.

As usual, STAR is indebted to staff of the SOPAC Secretariat for their cheerful and untiring efforts that make the meeting possible. The STAR meetings are organised over a much shorter time frame, and with fewer staff, than any other conferences with which I have been associated. The success is due to the efforts of the Secretariat. And finally, Madam Chair, may I take this opportunity as Chair of STAR speaking on behalf of all the scientists to thank our hosts, the Government and people of Niue, for the hospitality shown to us. Our reception up to and including last night has been truly memorable.

That concludes my address. Thank you.

John Collen, Chair

Science Technology and Resources Network (STAR)

Niue, 24 September 2003

## **APPENDICES - MINUTES OF STAR WORKING GROUPS**

### **I. Hazards Working Group Report**

#### *Participants*

Doug Ramsey (NIWA), Andrew Matthews (NIWA), Joe Buleka (PNG), Purnima Naidu (SOPAC), Alan Mearns (SOPAC), Atu Kaloumaira (SOPAC), Litea Biukoto (EU-SOPAC Project), Craig Pratt (EVI Project, SOPAC).

#### *Summary*

Comprehensive Hazard and Risk Management (CHARM) is recognised as an important decision making tool to assist mainstreaming sustainable development and risk management in member countries. However, it was noted that

its success depends on the selection of an appropriate office to drive it in country. In addition the working group suggested that the use of the latest applied science is used to support 5 - 10 year national development plans.

### *Recommendations*

The Working Group recommended:

- That a whole of government comprehensive hazard and risk management approach be integrated into national sustainable development planning processes. This broader holistic approach goes beyond the traditional disaster management focus and offers the opportunity for more robust forward investment decisions for sectors impacted upon by natural and human-induced hazards
- Greater government commitment is needed in utilising relevant science to guide decisions. Newly established coordination groups like GIS user groups in several countries have successfully encouraged the integration of science and traditional knowledge; demonstrated better collaboration between different sectors of the community and government and highlighted sector inter-dependency of decision-making. Multi-criteria tools (e.g. EVI, cost-benefit analysis, risk rating) need to be refined and promoted for national usage as they provide relevant scientific information with linkages to all levels of decision-making.
- That the next step to ensure successful implementation and evaluation of the CHARM regional initiative requires the model to be successfully piloted in a selected member country. It is suggested that the island of Efate in Vanuatu would be appropriate for this initiative with the outcomes and lessons learnt from the comprehensive trial of CHARM to be reported through the new Programme Technical Advisory Group to Council next year.

### **II. Habitats And Coastal Processes Working Group**

#### *Participants*

Gary Greene (Moss Landing Marine Labs), David Garton (Georgia Institute of Technology), David Kennedy (Victoria University of Wellington), Seong-Pil Kim (KIGAM), Se Won Chang (KIGAM), Cedric Mortimer (James Cook Uni-

versity), Naomi Atauea (Kiribati), Keu Mataroa (Cook Islands), Aumalaga Tiotio (Electric Power Corporation, Samoa), Lameko Talia (Samoa), Robert Smith (SOPAC).

The working group met on Monday September 22, 2003 at the Niue Sports Club, Niue. Eleven scientists participated in this working group.

- The group discussed the usefulness of marine benthic habitat mapping and the necessity of this methodology for addressing the ecology component of SOPAC's Cooperate Plan of 2003-2004. Biologists participating in this working group pointed out that ecology includes the interaction between the living and non-living processes, thus demonstrating connectivity between geosciences and biology. Therefore, the activities that SOPAC is charged with, including coastal geophysical mapping for aggregate assessment, hazards analyses, and effluent discharge, applies as well to the living resources. Therefore, habitat mapping is an appropriate mechanism for applying geoscientific studies to marine living resources evaluation.
- In light that it has been several years since a regional workshop on marine benthic habitats was held (the 1997 Noumea, New Caledonia workshop), the working group recommended consideration of developing a habitat-mapping workshop for the SOPAC region in the near future. The participants encouraged the seeking of funds, perhaps through the EU-EDF 8 program, to convene a workshop specifically focused on marine benthic habitat mapping in the SOPAC region. Such a workshop was viewed as timely given the recent increase in multibeam mapping projects completed in recent years, and the number of such projects contemplated for the near future.
- The working group noted that considerable multibeam and backscatter data have been collected in the SOPAC region that can be used to map marine benthic habitats. Although backscatter data has not been processed, it has been collected and could be processed once methodologies and funds needed to support software are identified.
- The working group suggested that SOPAC facilitate coordination between geologists and biologists when involved in coastal mapping so that habitat information beneficial to ecological assessment can be collected at no, or little, extra cost. The benefits of such

coordination is that sensitive ecological habitats may be identified in areas that, for example, may be earmarked for aggregate mining. Thus the mining activity may be shifted or selected elsewhere to prevent adverse impact to a critical habitat. In addition, participants at the working group noted that habitat mapping would be very beneficial in properly locating Fisheries Attraction Devices (FADs), thereby optimizing their effectiveness as well as minimizing the risk of loss.

- In regard to SOPAC's present activity of geomorphological mapping in Samoa for sand and gravel replenishment, the working group suggested that this activity being supported by Korea continue.
- To initiate a SOPAC marine benthic habitat mapping effort, the working group suggested that a pilot project be undertaken, preferably in an area where SOPAC has been collecting geophysical data useful in habitat mapping. Since SOPAC has several mapping operations ongoing in Kiribati, the working group recommended that a pilot project be undertaken in Kiribati.

#### *Recommendations:*

- A marine benthic habitat-mapping workshop be organized for the SOPAC region.
- Effort be made to process SOPAC backscatter data.
- A pilot marine benthic habitat-mapping project be done in Kiribati using multibeam data collected by SOPAC and including processing of backscatter data and interpretation of marine habitats from these data.
- SOPAC geologists and biologists coordinate when undertaking coastal mapping to facilitate holistic science and increase benefits of surveys.

### **III. Water Working Group**

#### *Working Group Members:*

Fonoto Perelini (American Samoa), Andrew Matthews (NIWA, New Zealand), Andre Siohane (Niue), Kelepi Mafi (Tonga), Bhaskar Rao (Fiji), Rhonda Bower (SOPAC), Luke Mosley (SOPAC), Paul Fairbairn (SOPAC), Clive Carpenter (SOPAC), Facilitator/Rapporteur.

### *Working Group Report & Recommendations:*

The members of the Water Working Group (WWG) agreed the following recommendations should be submitted to Governing Council for the benefit of the Community Lifelines Programme (CLP) and individual Member Countries:

The WWG recommended the CLP build upon its initial activities with the US-NZ Climate Accord Partnership, which has now developed into the US-NZ-Aus Tri-lateral Climate Partnership Programme. Specifically the climate programme provides valuable opportunities to enhance data collection, as well as data capture, storage & retrieval, and capacity building, directly relevant to all three CLP component areas (resources, assets and governance).

The WWG agreed that the recent G8 decision to support an Earth Observation Summit, provides a global driver for the implementation of such regional programmes as Pacific Islands Global Climate Observation System (PI-GCOS) and its sub-components relevant to the CLP including Pacific Hydrological Cycle Observation System (Pacific HYCOS). SOPAC is recommended to remain engaged in PI-GCOS and actively develop the Pacific HYCOS initiative.

WWG recognised the immediate complementarity between the 3 thematic areas of: Water Resources & Climate; Water Utilities; Water Awareness & Governance; in the SIDS global water position agreed at the 3<sup>rd</sup> World Water Forum in Kyoto in March 2003, the Pacific Regional Action Plan on Sustainable Water Management, and the CLP component areas of Resources Management, Asset Management and Governance. The CLP structure is therefore considered to reflect the needs of the water sector.

WWG acknowledged the initiative taken by Papua New Guinea in using the Pacific Regional Action Plan on Sustainable Water Management as a framework to develop a national level strategic approach to sustainable water management, and recommends to other SOPAC Member Countries to review the potential contribution of the Regional Action Plan in contributing to their national development plans.

The WWG identified the Caribbean regional water initiative known as the White Water to Blue Water Initiative as having considerable value to the Pacific region. The WWG recom-

mended the CLP use the Joint Caribbean-Pacific Programme for Action on Water & Climate (JPfA) to strengthen the existing partnership with the Caribbean on integrated watershed and coastal area management (IWCAM) approaches, including knowledge, data and capacity building transfer. Specific opportunities were recognised for the development of such a programme in the US affiliated north Pacific.

The WWG expressed its concern of the existing low levels of staffing and capacity within the CLP Water Team. It recommended the CLP to maximise opportunities to increase CLP capacity during the Commission on Sustainable Development (CSD) two year focus on water in 2004-2005. It further recommended the CLP to explore alternative approaches to augmenting capacity including secondments, job-sharing and outsourcing arrangements developed through improved partnership with other regional stakeholders eg. Pacific Water Association (PWA), American Samoa Power Authority (ASPA) and the National Institute for Water and Atmospheric Research (NIWA).

WWG raised concerns over the lack of water specialists present in STAR sessions and the associated lack of input therefore available to contribute to CLP programme review. WWG recommended SOPAC seek opportunities for strengthening the capacity of STAR such as joint or piggy-backing of sector stakeholder meetings in parallel or in advance of STAR, eg the PWA Annual General Meeting.

WWG mindful of the CSD 11 decision to focus on Water & Sanitation in the years 2004-2005 recommends to CLP and to Member States the need to use this period of increased opportunity to secure future water initiatives at the regional and national level to augment national capacity.

The WWG recommended to CLP to explore opportunities of linking wastewater and sanitation activities to the new regional waste initiative, announced at the recent Pacific-Japan Leaders Summit (PALM) meeting in Okinawa, and currently implemented by SPREP.

## **IV. Energy Working Group**

### *Working Group Members:*

Fonoti Perelini Perelini (American Samoa), Keu Mataroa (Cook Islands), Ambassador Mack Kaminaga (RMI), Lameko Talia (Samoa),

Taule'ale'ausumai Toitoti (EPC – Samoa), Dr Charles (Chuck) Helsley (STAR), Gordon Chang (PPA), Wolf Forstreuter (SOPAC), Paul Fairbairn (SOPAC), Facilitator/Rapporteur:

### *Working Group Report & Recommendations:*

The members of the Energy Working Group (EWG) agreed the following recommendations should be submitted to Governing Council for the benefit of the Community Lifelines Programme (CLP) and individual Member Countries. The key issues were as follows:

- Noted the urgent need for PICs to consider and plan for the design, development, integration and use of alternate sources of energy as the currently available resource of transportable fuels (in particular fossil fuels) are likely to become increasingly uneconomical and, in some cases, will become depleted within the near future.
- Noting the technical publications already prepared and published by SOPAC and those in final draft, requested that SOPAC further take a lead role in the identification and dissemination of information on new and developing technologies including information where research is being carried out on relevant alternate energy sources and development that are relevant for adoption within the region.
- Endorsed the proactive approach that SOPAC has taken in respect to the ongoing resource assessment in wind, wave, ocean thermal, geothermal and biomass, and encouraged aggregation and publication of information on coconut fuel.
- The EWG recommended that SOPAC continue to monitor the progress with the research and development of hydrogen fuel cells and other potential developing energy technologies.
- Identified the need for Pacific Island Countries and Utilities to work collaboratively with SOPAC and other CROP organizations and other associations such as the Pacific Power Association (PPA) in providing information that can be circulated either through the Pacific Islands Newsletter (PEN) or other appropriate media and e-mail.
- Encourage PIC's to promote and implement demand and supply side management and sustainable energy developments to reduce wastage and improve efficiency.
- It was noted that the EU Project proposed to convene a central workshop to bring technicians from PICs together that will assist in providing training and support to EU/ACP Member Countries in GIS and Remote Sensing and encourages a particular emphasis for the utilities (power / water / telecom / PWD).
- The EWG recognised the need for SOPAC to strengthen links with the Utilities and the PPA, in particular in the dissemination and sharing of technical information.
- Finally the EWG noted the need to increase the participation of technical and scientific component at STAR relating to energy.