REGIONAL BIOMASS ASSESSMENT PROJECT
IN-COUNTRY TRAINING REPORT

Dr S. Hemstock & Dr K. Deepchand
Consultants – Imperial College Centre for Energy Policy and Technology (ICCEPT)

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1. BACKGROUND

This report appraises participation and training for the Biomass Resources Assessment Training Workshop (May-June 2003). The course was run in the SOPAC countries of Fiji, Tonga, Samoa, Vanuatu, Tuvalu, & Kiribati and was held under the aegis of the South Pacific Applied Geosciences Commission (SOPAC) and Imperial College Centre for Energy Policy and Technology (ICCEPT), with Sustainable Resource Management (SRM) providing support & backup.

2. COURSE STRUCTURE AND TIME/ACTIVITY SCHEDULE

Details of the course timetable, countries covered and dates of training, trainers and facilitators are given in Annex I.

3. PARTICIPANTS AND THEIR BACKGROUNDS

The list of course participants are presented on a country by country basis in Annex II. It should be noted that in most cases course participants were drawn from institutions, NGO's and women's organizations which will potentially be responsible for formulating/ implementing, or facilitating thereof, projects to be identified both during and after the training course. Participants' project ideas were further explored in the "Poster Presentation" sessions. The institutions represented generally included agriculture, energy, fisheries/forestry, national planning, environment, statistics, women's groups, NGO's. In the case of Tonga, the participants were drawn from institutions like forestry, land resources, energy planning, statistics, shoreline distribution, environment planning and assessment, central planning. SOPAC representatives participated in the workshop in Fiji & Tonga, facilitated workshop organization generally in all the countries covered and facilitated training specifically in Samoa, Vanuatu & Kiribati.

4. LECTURES – FORMAT OF MATERIAL PRESENTED AND HANDOUTS

The lectures were delivered using the country studies and training manual (prepared by Dr F. Rosillo-Calle) which had previously been made available to the participants on the ICCEPT website: <http://www.iccept.ic.ak.uk> (prepared by Dr S.L. Hemstock). The salient features of these documents along with further reference material were highlighted in a comprehensive set of

slides for each of the topics/subjects being addressed (prepared by Dr S.L. Hemstock; sugarcane case study: Dr K. Deepchand; Tuvalu coco-oil case study: Dr J. Woods). Visual aids were delivered using a laptop coupled with an LCD projector. The same course material and slides were used for the training in all countries (see attached CD ROM). The slides were supplemented by Dr Hemstock's detailed lecture notes and papers which were photocopied and distributed to participants, along with a CD ROM (prepared & distributed by SOPAC) contained all the material presented during the course.

In Samoa the country organizer (Mrs S.K. Ualesi), provided the participants with hard copies of the material on the website in addition to copies of handouts provided by the trainer & SOPAC.

5. BRAINSTORMING SESSIONS

Provision of small breaks was made throughout the presentation for short brainstorming sessions to ensure that participants were able to follow the courses and that their participation was efficient and effective. A few examples of topics addressed in the brainstorming sessions are given in Annex III. In these brainstorming sessions, the participants were encouraged to brainstorm in groups of two or three while the trainers interacted with each group to maximize their participation. After the brainstorm participants were encouraged to present their views to the rest of the group so that they could be recorded and distributed.

6. THE SUGAR CANE CASE STUDY

In Fiji, Dr K. Deepchand presented the sugar cane case study with emphasis on the experience on bagasse energy development. Data from the Fiji sugar industry were given to the extent that they were available. Dr Narendra Reddy, of the School of Social and Economic Development of the University of South Pacific also attended the presentation and participated in the discussion. Participants were impressed with the healthiness of the Mauritian sugar industry, particularly, in the production of both sugar and electricity from sugar cane in a sustainable manner over the past decades. Mauritius, with one-tenth the land area of Fiji is producing 1.5 times the amount of sugar produced in Fiji and also meeting 40% of the island's annual electricity demand. Fiji is also, as a small island economy, apprehensive of the revision of sugar policy by the EU on supply of sugar from the ACP countries. The outcome could largely determine the future of the sugar cane industry in Fiji. On the other hand, it is known that there is considerable scope for the sugar industry to improve its sugar production efficiency in particular, through improved cane agronomic

practices and to follow the example of Mauritius in bagasse electricity export. Fiji, like Mauritius, has no fuel of fossil origin but has significant hydro-electrical power (80 MW installed capacity) which meets 80% of its energy requirements. There exists potential for cogeneration using bagasse, complemented by forestry residues and crop residues (e.g. coconut). This merits particular attention. In addition to the commercial value of such cogeneration, it also has considerable social value in that it is associated with significant carbon emission credits potentially tradable under the Clean Development Mechanism of the Kyoto Protocol.

7. FIELD VISITS

Fiji

In Fiji, a half-day visit was organised to take stock of the status of biomass resources available and current uses and to enable participants to discuss with the resource persons potential projects. The sites visited and respective activity undertaken were as follows:

(i) Vatuwaqa coastal area – Damages done to foreshore area and mangrove regeneration project. The coastal management failed due to wave action, missing mangroves and erection of sea walls. Wood from mature mangrove was removed for use as fuel wood –mainly for funeral pyres.

(ii) South Seas Timber Mill – This mill receives sawn wood and undertakes wood processing tailor made for paneling and furniture making. Timber is normally received fresh (wet) and requires drying and subsequently undergoes fungicide/insecticide treatment prior to processing. The mill thus requires steam (heat) for drying and electricity for processing. A cogeneration project using sawdust and wood chips has been identified. A pre-feasibility study has been discussed and will be the subject of further discussion between the participants and the trainers. The plant processes 3000 m^3 of wood annually.

(iii) Tamas Farm – This farm rears pigs (100 – 150 heads) and its manure is fed to a digester, the biogas from which is used as cooking fuel for the family in the adjoining household. Problems are being encountered in running the plant. It would appear that the biogas plant is not being managed properly more particularly the water: digestible solids are not being properly monitored. The Ministry of Energy will provide assistance in reviewing the plant to enable it to function properly on the basis of information provided by the trainers. Moreover, the design of the biogas plant has been made available to one participant who was interested in implementing a system in one of the agricultural stations.

(iv) Timber Utilisation of the Forestry Department at Nasinu – The unit receives wood and processes it into a wide range of timber products for research and also catering for the artisanal market for tourists. Wooden bowls, trays, plates, spoons, forks, plywood are items currently being manufactured. In this case also, there is a significant amount of wood wastes, which could be a biomass resource for value added products.

(v) Plantation Forest at CIS – In this visit, participants were able to take stock of activities undertaken by the Forestry Department in the regeneration of forests in Fiji. Emphasis is on woody biomass resource production in the forest area.

Kiribati

(i) Kiribati Copra Mill Company Ltd – Producing crude and refined coconut oil, cooking oil, shampoo, hair and body oil, animal feed, soap, and toiletries. Mr R. Onorio, Ministry of Industry & Tourism, Kiribati arranged this visit. This was an excellent opportunity for participants to visit a modern biomass processing plant. The plant is capable of processing 5 tones of copra in 1 hour and can produce approximately 18,000 litres of coconut oil per day.

8. PARTICIPANT POSTER PRESENTATIONS

This was the last session held on each of the courses. The intention of this session was to allow course participants to examine in detail a subject from the course, which they personally found to be of interest or of relevance to their own work. Participants worked together in groups, identified their own areas of interest, and researched their chosen area in detail with guidance from the trainer & use of research/reference material provided. Each group distilled their research into a "poster" which was then presented to the rest of the participants. Considering the diverse backgrounds of the participants and the subjects chosen, the final posters & presentations were impressive.

Subjects for poster presentations included:

- Biogas digester projects (Samoa, Vanuatu, Tuvalu, Kiribati);
- Coconut oil (Project set up – Samoa);
- Feasibility of large scale bio-diesel production – Kiribati & Tuvalu;
- Tree of life – Tuvalu;

- Resources (Village level assessment – Samoa; from a sawmill – Samoa; identifying national resources – Tuvalu);
- Land use issues (Tuvalu);
- Forestry & environmental issues (Vanuatu);
- Gasification to produce electricity from sawmill waste (Vanuatu); and
- Community Biogas Digester Project: Vanuatu Village level resource assessment: Samoa.

9. EVALUATION OF TRAINING COURSE

In order to monitor the lecture programme, a number of questions were asked in a questionnaire given to all participants with a score varying between 1 for very bad to 5 for very good. A sample copy of the questionnaire with % marks given is annexed (Annex IV).

On the basis of the responses obtained, it can be concluded that in all countries the lecture room facilities were good, the lectures were clear and easy to understand, and their content relevant to the course. The lectures also followed a logical sequence. Visual aids were used effectively and were easy to understand and relevant. Handouts were used effectively and were clear and relevant. Participants had adequate opportunities for questions after the lectures and were given adequate breaks between lectures. The participants in general found the lectures useful and informative.

In Fiji, opinions were expressed that some more examples of local energy crops could have been included as well as some actual engineering design of plants. Some participants in Tonga expressed their interest to visit some successful plants based on biomass energy in the South Pacific region. The duration of the workshop could have been extended to give more time to reflect on the issues being addressed in the lectures.

In Samoa participants were happy that the course was comprehensive and useful for people from a variety of backgrounds but would have liked more time - the general consensus was that 3 days was a very short amount of time to cover all the material. As the group was very diverse, discussion amongst participants via “brainstorming” sessions was very useful, but could have been extended. Practical resource assessment demonstrations were also suggested – this would have been useful, but the course would have to have been extended to 4 days.

In Vanuatu, participants suggested field trips would have been useful, or watching videos of biomass plants. Another suggestion was the inclusion of presentations from local bio-diesel

producers. However, local bio-diesel producers were participants at the workshop and, additionally, helped facilitate group poster presentations which examined market penetration of coconut oil bio-diesel.

Tuvalu participants thought that the subject matter was very relevant to them, especially in terms of Tuvalu's waste management problems. The use of laptops for all participants and internet connection was also suggested, since then the participants would be able to reference the material on the CD and web during the presentations.

Kiribati participants would have liked more time to cover the course material, and would have liked the opportunity to present their "Brainstorm" session findings to the rest of the group via a flip-chart.

10. IDENTIFICATION OF POTENTIAL PROJECTS

In Fiji, participants have identified two potential projects – one on the use of sawmill residues for steam/electricity generation and the other on biogas. The trainers provided guidelines to the participants on the methodology to be used in the preparation/presentation of the proposals and issues that have to be highlighted which will attract funding by potential donors. Strong emphasis should normally be placed on issues like sustainability, climate change and gender in addition to the usual technical, socio-economic and financial factors.

In Tonga, participants were given the opportunity to brainstorm on follow-up action to this course. There was consensus that there is the need to carry out an assessment of the various biomass resources available on the basis of the methodology discussed in the training workshop over the past 3 days. The participants agreed to collaborate in an initial survey which will identify local plant species that can potentially be used for electricity generation. It was pointed out that a local acacia plant species produces a harvestable biomass material almost every month. An in-depth study on this plant species was also to be undertaken.

In Samoa, course participants identified three potential projects. The Managing Director of the local electricity utility wanted to use local biomass resources to generate electricity. He suggested that this could be done in the form of a whole coconut processing plant, where the husk & shell are burnt for heat & the flesh is used to produce oil, which can be used to fuel a generator, as well as produce byproducts, which would lower the cost of the process. Mr Rupeni Mario (SOPAC) had a follow-up meeting with him after the workshop. Another project identified was community

coconut oil production for use as a cosmetic base – members of a local NGO, METI, identified this. The participant from the National Women's Committee identified the final project, a community-level biogas digester.

In Vanuatu, participants identified two new potential projects: a community-scale biogas digester and a gasification system for utilizing forestry and sawmill wood waste to produce electricity. Government & NGO representatives identified biogas digester projects and coconut oil bio-diesel projects in Tuvalu.

In Kiribati, the copra mill is going to consider using coconut oil as a substitute for diesel, and the local women's group was interested in implementing a biogas digester project as a means of producing energy for cooking, helping provide sanitation and using the slurry as a soil amender. Support and guidance will be provided to any participant who wishes to take their project ideas further.

11. CONCLUDING REMARKS

On the basis of the response and interactions amongst the participants it was evident that considerable awareness has been created on the potential of biomass for the production/generation of energy in its various forms. Now that the methodology of assessment has been worked out and potential uses have been identified, participants will be able to conceptualise new projects. However, it is being anticipated by the participants that SOPAC will provide technical assistance in project formulation, detailed feasibility studies and monitoring of implementation, commissioning, and successful, sustainable operation of projects.

ANNEX I

Time Table and Schedule & Course Time Table

SOPAC: Biomass Resources Assessment (Suggested Course Structure)

LECTURE TITLE/SUBJECT	BRIEF SYNOPSIS
Day 1 (am)	
General Overview	Introduction to the course & general introduction to biomass as an energy source – definitions etc.
Global Perspectives	Examination of biomass energy on a global scale: impacts & issues.
Biomass Energy & Development	The role of biomass energy in an integrated approach to energy provision and development.
Day 1 (pm)	
Climate Change	Basis, role of biosphere, the future role of biomass energy, Kyoto & UWFCCC. Biomass Fuel Production Chains
(Reduced version for Tuvalu)	An examination of biomass fuel production chains: logistics, technologies & options.
Day 2 (am)	
Resources	Designated energy crops, residues & wastes. A problem-solving scenario: Relating local biomass resource production & availability to sustainable provision of local energy needs.
Methodologies	Measuring biomass resources – theory & practice. Flow-chart methodologies.
Country by Country Resources	Identifying resources. (Biogas, coconut oil bio-diesel; sugarcane cogeneration; residues)
Day 2 (pm)	
Project Implementation Issues **(Reduced version for Tuvalu)**	Historical context of failed bio-energy projects and the factors required to make a project successful (e.g. institutional support, reliable technology, fuel standards, etc.)
Policy Environment **(Reduced version for Tuvalu)**	Examines the role of various policies on the success or failure of bio-energy projects. Identification of where support is targeted, and what is required for an integrated renewable energy solution.
Sustainability **(Reduced version for Tuvalu)**	Economic, environmental & social sustainability of biomass energy.
Day 3 (am)	
Case Studies: Coconut oil production chains	Bio-diesel Straight vegetable oil (SVO), (esterification) (Uses: transport fuel, electricity/heat – CHP; cooling)

Forestry residues **(Not Tuvalu)**	Examining local data and identifying biomass energy resources as a co-product of forestry management. (Uses: electricity/heat)
Waste treatment & management	Livestock residues & human sewage treatment. Examining applicable technologies e.g. biogas digesters.

Day 3 (pm)

Participant's Poster Presentations	To be prepared by each participant before commencement of the training course – further details will be posted on the website.

Day 4 (Additional: Fiji only)

Sugar Cane Case Study	Presentation of findings and possible site visit.

Country/Date of Training/Trainer/Facilitator

Fiji, 13-16 May:
Trainers: Dr S.L. Hemstock (ICCEPT) & Dr K. Deepchand (SRM)

Tonga, 20-22 May 2003:
Trainer: Dr K. Deepchand (SRM)

Samoa, 21-23 May 2003:
Trainer: Dr S.L. Hemstock (ICCEPT)
Facilitator: Mr R. Mario (SOPAC)

Vanuatu, 2-4 June 2003:
Trainer: Dr S.L. Hemstock (ICCEPT)
Facilitator: Mr A. Matakiviti (SOPAC)

Tuvalu, 10-11 June 2003:
Trainer: Dr S.L. Hemstock (ICCEPT)
In Tuvalu, all subjects listed above were covered over a 2-day period, including poster presentations.

Kiribati, 16-18 June 2003:
Trainer: Dr S.L. Hemstock (ICCEPT)
Facilitator: Mr A. Matakiviti (SOPAC)

ANNEX II

Participants

LIST OF PARTICIPANTS – FIJI (13-16 MAY 2003)

Name	Institution
1. Mr Matia Tuisawau	Statistics
2. Mr Basdeo Lal	Agriculture
3. Ms Illisapeci Naitoga	Environment
4. Mr Paula Katirewa	Energy
5. Mr Taleshul Gani	Energy
6. Mr Anare Matakiviti	SOPAC
7. Mr Sailosi W. Kepa	National Planning
8. Mrs Shobna Devi	Fisheries/Forestry

LIST OF PARTICIPANTS – TONGA (20-22 MAY 2003)

Name	Institution
1. Simone Ngalu	Shoreline Distribution
2. Heimuli Likiafu	Forestry Division
3. Siu Epifania	Statistics Department
4. Sione Faleafa	Central Planning Department
5. Fine Tutiu Lao	Environment Planning & Assessment Division
6. Tevita Tukunga	Energy Planning Unit
7. Michael Jones	Energy Planning Unit (Peace Corp Member)

LIST OF PARTICIPANTS – SAMOA (21-23 MAY 2003)

Name	Institution
1. Harman Porter	EPC
2. Muaausa Joseph Walter	EPC
3. Jordan Toomalatai	METI
4. Nimarota Faasoa Ieti	METI
5. Tepa Suaesi	OLSS
6. Emmanuel Amosa Ah Leong	MAFFM – Crops Research
7. Olivia Peseta	MAFFM – Forestry Research
8. Tiresa Mayuu	Women's Committee
9. Elwyn Ale	Ministry of Works, Transport & Infrastructure
10. Donna Sila	MAFFM Animal Prod. & Health
11. Sepelini Poufa	Ministry of Works, Transport & Infrastructure
12. Roina F. Vavatau	Ministry of Women, Social & Community Dev.
13. Vavaemuitiiti Samasoni	Ministry of Women, Social & Community Dev.
14. Litara Tauleado	Ministry of Finance
15. Sili'a Kilepoa Ualesi	Ministry of Finance

LIST OF PARTICIPANTS – VANUATU (2-4 JUNE 2003)

Name	Institution
1. Audrey Luen	President of Mothers Union
2. Janet Sahe Vanwoods	Micro Finance NGO
3. Joseph Tungon	Forestry Dept.
4. Watson John Lui	Deputy Director Forestry Dept
5. Rodney Aru	Operation Manager, Melcoffee Sawmill
6. Ruth Dovo (Mrs),	Vanuatu National Council of Womens
7. Rexon Moli Viranamangga	Forestry Dept.
8. Roselyn Q. Tor	Retired Director of Vanuatu Woman's Affairs
9. Nemo Matai	Solar Energy, Energy Unit
10. Harry Nalau	Statistician
11. Matthew Temar	GIS Officer, Lands Dept.
12. Antony Deamer	Motor Traiders
13. Takumi Kawahara	Solar Energy, Energy Unit
14. To'ufau Kalsakau	Forestry Dept.
15. Moli Janjea	Senior Energy Officer, Energy Unit
16. Alex Steven	VAST Coco-oil

LIST OF PARTICIPANTS – TUVALU (10-11 JUNE 2003)

Name	Institution
1. Lama Latasi Vakafua	TANGO
2. Leitonga Taua	Ministry of Home Affairs
3. Asita Molotii	Project Officer
4. Elu Benjamin Tataua	Ministry of Natural Resources
5. Easter Korere	Ministry of Finance & Economic Planning
6. Nielu Meisake	Ministry of Works & Energy
7. Sir Toaripi Lauti	Vice President Funafuti Town Council
8. Pepetua Election	Latasi Department of Environment
9. Timaio Auega	Department of Energy
10. Susan Tupulaga	Waste Management Coordinator
11. Kapuafe Lifuka	Tuvalu Solar Electricity Cooperative
12. Avila Kualani	Energy Survey Officer
13. Leslyne Uaelesi	Department of Energy
14. ISAIA Taape	Department of Energy
15. Catherine Resture	Department of Energy
16. Sagaga Charles	Department of Energy

LIST OF PARTICIPANTS – KIRIBATI (16-18 JUNE 2003)

Name	Institution
1. Mamarau Kaivirieta	Div. Agriculture
2. Mauea Wilson	National Women's Council
3. Rota Onorio	Ministry of Commerce, Industry & Tourism
4. Mautaake Tannang	Ministry of Works & Energy
5. Uarai Koneteti	FSP (Local NGO)
6. Eita Metai	Ministry of Works & Energy
7. Taroe Beniera Kiribati	Protastent Woman's Fellowship
8. Kireua B Kaiea	Energy Project Engineer
9. Paul Peter Tekanene	Kiribati Copra Mill Company Ltd.

ANNEX III

Brainstorm (introducing energy)

Background Concepts:

[1] What is energy?
[2] What makes a "good" source of energy?
[3] What is a "renewable" energy?
[4] What is energy efficiency?
[5] What does the term "sustainable development" mean? What are the main constraints?
[6] What are the uses of biomass?

Brainstorm!! (Methodologies)

Planning an Assessment of Biomass Resources:

[1] What are the factors you need to consider?
[2] What are the questions you need to answer?
[3] You are designing a survey to look at village biomass consumption patterns.
[4] What categories/factors/issues would you wish to investigate?

(Biomass Resources)
Biomass Energy for Sustainable Development:

A Developing Country Perspective

Handout 1, Overview:

Imagine you are aid workers in a rural village, food crops are failing, water supply is plentiful, the villagers are poor & cannot afford outside help or hitech equipment.
Your mission is to find out what the problems are and how to solve them. You will need to ask yourselves:

[1] What is energy needed for in the village?
[2] What energy sources currently supply village needs?
[3] What are the problems with these energy sources, why are they failing to deliver?
[4] What is causing localised deforestation?
[5] How can deforestation be prevented?
[6] What needs to be changed or introduced to provide sustainable village development?
[7] You will be provided with information on:

- The village system
- Agriculture and energy sources
- A village which has exactly the same resources as your village. However, this village is prosperous, can feed its population, has no deforestation problems, and has TV and street lighting.

ANNEX IV

SOPAC/ICCEPT Pacific Islands

Biomass Energy Resource Assessment Training Course

In order to monitor our lecture programme, please could you answer the following questions by scoring 1-5 as below and by commenting where relevant.

KEY				
Very bad	Bad	Neither good nor bad	Good	Very good
1	2	3	4	5

1. How were the lecture room facilities? 1 2 3 4 5
OVERALL TOTAL MARK = 91%
Comments Total number of responses = 38, 66% very good; 24% good; 8% neither good nor bad; 3% bad

2. Were the lectures clear and easy to understand? 1 2 3 4 5
OVERALL TOTAL MARK = 87%
Comments Total number of responses = 38, 40% very good; 55% good; 5% neither good nor bad

3. How relevant was the content of the lectures? 1 2 3 4 5
OVERALL TOTAL MARK = 91%
Comments Total number of responses = 38, 58% very good; 39% good; 3% neither good or bad

4. Did the lectures follow a logical structure? 1 2 3 4 5
OVERALL TOTAL MARK = 88%
Comments Total number of responses = 38, 47% very good; 47% good; 5% neither good nor bad

5. Were the visual aids used effectively? 1 2 3 4 5
OVERALL TOTAL MARK = 87%
Comments Total number of responses = 38, 39% very good; 58% good; 3% bad

6. How easy to understand were the visual aids? 1 2 3 4 5
OVERALL TOTAL MARK = 83%
Comments Total number of responses = 38, 26% very good; 61% good; 13% neither good nor bad

7. How relevant were the visual aids? 1 2 3 4 5
OVERALL TOTAL MARK = 86%
Comments Total number of responses = 17, 35% very good; 59% good; 6% neither good nor bad

8 Were handouts used effectively? 1 2 3 4 5
OVERALL TOTAL MARK = 80%
Comments Total number of responses = 17, 41% very good; 18% good; 41% neither good nor bad

9. How clear were the handouts? 1 2 3 4 5
OVERALL TOTAL MARK = 89%
Comments Total number of responses = 17, 53% very good; 41% good; 6% neither good nor bad

10. How relevant were the handouts? 1 2 3 4 5
OVERALL TOTAL MARK = 92%
Comments Total number of responses = 17, 59% very good; 41% good

11. Were there adequate opportunities for questions after the lectures?
Yes No
Comments Total number of responses = 17, 100% Yes

12. Was there anything covered in the lectures that you felt was not relevant? **Yes No**
Comments Total number of responses =17, 12% Yes 88% No

13. Was anything not covered in the lectures that you wish had been? **Yes No**
Comments Total number of responses =17, 6% Yes 94% No

14. Were adequate breaks given between lectures? **Yes No**
Comments Total number of responses =17 100% Yes

15. How useful was the seminar? 1 2 3 4 5
OVERALL TOTAL MARK = 94%
Comments Total number of responses =39 72% very good; 26% good; 2% neither good nor bad

16. Were you given adequate preparation time for your presentations?
Yes No
Comments Total number of responses =38 79% Yes 21% No

17. Was there any additional help or facilities you wish you'd had access to? **Yes No**
Comments Total number of responses =38, 32% Yes (internet) 68% No

18. Are there any ways the lectures or facilities could be improved? **Yes No**
Comments Total number of responses =38, 53% Yes (field visits, more time) 47% No

Thank you for your co-operation

Overall Total Mark indicates the response score as a % of the maximum available.

ANNEX V

Regional Biomass Project In-country Training CD

BACK POCKET

(Available from the SOPAC Secretariat on request)

ANNEX VI

SUPPLEMENTARY PAPERS

(Available in hardcopy only from the SOPAC Secretariat)