

# **PACIFIC ENERGY AND GENDER ANNOTATED BIBLIOGRAPHY**

**September 2005**  
**SOPAC Miscellaneous Report 605**

**Compiled by:**

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**SOPAC**



partageons les connaissances au profit des communautés rurales  
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## PREFACE

This annotated bibliography was prepared in response to priorities set during the regional workshop "Gender, Energy and Sustainable Development", 4-8 August 2003, and specifically the recommendations made by Pacific Island Countries to strengthen dissemination of information on energy and gender issues in the region. The specific objective of this document is to summarise the most important materials on gender and/or women and energy, which refer to the Pacific region, whether written from within or outside of the region.

The range of resource materials on gender and energy in the Pacific is limited. Very few entries in this Annotated Bibliography primarily deal with this issue in the region. Most of the materials included are reports of conferences, projects, surveys, policies and papers on energy that make reference to women in the Pacific and these are often linked to stove and community-based energy projects. As such, the scope of the materials included in this bibliography is somewhat wider than anticipated.

Also, materials included in this bibliography are limited to libraries and resource centers in Fiji and a few publications were physically sent from New Caledonia. Materials contained in the numerous resource centers and libraries in the other Pacific Island countries are not included in this bibliography. Access to resource materials while based in Fiji is a constraint, especially when most reports and project documents are available only in hardcopies. Despite the constraints in terms of geographical coverage, literature for 11 countries is substantial, mainly Fiji Islands, Marshall Islands, Vanuatu, Solomon Islands, Papua New Guinea (PNG), Cook Islands, Tonga, Kiribati, Tuvalu, Western Samoa and American Samoa. Literature was limited for the following countries: Federated States of Micronesia (FSM), Tokelau and Palau.

It should be noted that most research papers, publications, statistical profiles collected for this bibliography are dated from 1980s to early 1990s. Most of which are focusing on woodstove or household energy. This is mainly due to the donor interest and funding in the Pacific region back in 1980s in this area. There is limited recent research carried out in this area. Nevertheless the 1980s and 1990s research papers and statistical profile provides useful background, lessons learnt and data for future studies. Indeed in compiling of this Annotated Bibliography, it became very clear that further studies and research work needs to be carried out in the area of energy and gender to ensure up to date information and data is available.

The length of each annotation varies. This is mainly determined by the extent to which Pacific gender and energy issues have been dealt with in the material or the implications it may have on the issue.

There were numerous survey and project reports on stoves in the Pacific but they have not all been included. Only selected and focused literature are incorporated in this work.

The *Pacific Gender and Energy Annotated Bibliography* is divided in two parts:

Part 1 includes all the resources materials gathered that do not describe on-going energy and gender projects in the Pacific. Part 2 lists ongoing gender and energy projects in the Pacific.

A series of keywords provided by ENERGIA Secretariat has been used in this document, which is annexed to this document. The keywords have been used in the tables, only where appropriate; hence there are blanks in some tables. These keywords would assist in putting this document in an access database format as a search engine in the future. The project section adopts a different table format.

This Annotated Bibliography is a living document and will be progressively updated as new information and literature comes to hand, and / or resources permit expansion of search to libraries and resource centres outside Fiji.

If readers are aware of unlisted material, and for further information, please contact:

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September 2005

## ACKNOWLEDGEMENTS

The development of this *Pacific Energy and Gender Annotated Bibliography* is a Pacific Energy and Gender Network (PEG) initiative.

We thank the Dutch Directorate for Development Cooperation and the Swedish International Development Agency who through the ENERGIA Secretariat, based in the Netherlands, provided funding of this useful volume, specifically for funding the Consultant, Editor, research and compiling of the document. We further acknowledge the Technical Centre for Agricultural and Rural Co-operation (CTA), (also based in Netherlands) for funding the Junior Researcher to assist the consultant in the research and the completion of this publication.

We would like to express our sincere gratitude to the following organizations and individuals for their assistance in this project:

- Resource center staff of the Pacific Islands Forum Secretariat (PIFS), Secretariat of the Pacific Community (SPC) in Suva and Noumea, UNIFEM Pacific Regional Office, Pacific Concerns Resource Centre (PCRC), and the Fiji Department of Energy for assistance in finding the relevant material and providing us workspace during research.
- Rachelle Oriente, Librarian of Secretariat of the Pacific Community (SPC) in Noumea for searching for material in their library and sending hardcopies to Fiji.
- Doreen Naidu, Librarian, South Pacific Applied Geosciences Commission (SOPAC) Secretariat for arranging for the borrowal of books from a number of the resource centers.
- Members of the Pacific Energy and Gender Network (PEG) for their feedback and suggestions.
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- Special appreciation to Yogita Bhikabhai from SOPAC Secretariat and Chesha Wettasinha from ENERGIA Secretariat for their continuous support, assistance, feedback and reviewing of the document.
- Last, but not the least, thanks to Ms Lala Bukarau for editing the document.

## Pacific Energy and Gender Annotated Bibliography

### Part 1

1. ADB, 2003, *Priorities of the People: Hardship in the Marshall Islands*, Asian Development Bank, Manila, Philippines.

Category	
End Uses	Household energy
Energy Technology	Grid electricity
Issue	Energy and livelihoods, women's empowerment
Level	Policy advice

This 15-page booklet produced by the Asian Development Bank is a summary of an assessment of people's perceptions of poverty and hardship in the Marshall Islands. The assessment included talking to community leaders (chiefs, elders, church leaders), women, youth and people who were identified as sufferers of poverty and hardship. Three of the eight major causes of poverty and hardship outlined in the report were: poor basic service provision, especially safe drinking water and electricity; increasingly stressed gender relations; and women's increased workload. Those consulted stated that the limited supply of electricity to people without solar power in the outer islands and the unreliable energy provision in the urban centers was a fundamental cause of poverty. The report also states that women's work load is increasing as they engage in income generating activities while continuing to maintain their household tasks.

**(Source: UNIFEM Pacific Regional Office)**

2. ADB, 2003, *Priorities of the People: Hardship in Vanuatu*, Asian Development Bank, Manila, Philippines.

Category	
End Uses	Household energy
Energy Technology	
Issue	Energy and livelihoods
Level	Policy advice

This 17-page booklet produced by the Asian Development Bank gives a brief overview of an assessment of people's perceptions of poverty and hardship in Vanuatu. The assessment was made by talking to community leaders (chiefs, elders, church leaders), women, youth and people who were identified as sufferers of poverty and hardship. Poor service delivery was seen as a significant contributing factor to hardship in communities. Figure three in the publication shows the accessibility of power to communities among other basic services. The report also states that women sought to improve their access to services and facilities such as education, training, marketing, and credit through representation in order to improve their livelihood.

**(Source: UNIFEM Pacific Regional Office)**

3. APACE, 2003, *APACE VFEG Annual Report 2003*, APACE, Broadway, Sydney. Available at <http://www.apace.uts.edu.au/docpublish/rep2003.html>

Category	
End Uses	Household energy
Energy Technology	Micro-hydro
Issue	Capacity building
Level	Project/Programme plan

This report presents the APACE VFEG activities conducted in 2003. A brief description of the following activities is contained in the report: strengthening of the Solomon Islands Village Electrification Council (SIVVEC); development of energy implementation capacity in the Solomon Islands; founding of the Pacific Energy Group (PEG); production of the “Eight Steps to Village Electrification” manuals; establishment of a Vanuatu Village Electrification Council; consolidation of the APACE VFEG systems and procedures; and contributions to the ENERGIA journal.

**(Source: APACE Website)**

4. APACE, 1998, *Zuke Women’s Workshops: Solomon Islands*, APACE, Broadway, Sydney, Australia. Available at:

<http://www.apace.uts.edu.au/docpublish/zuke.html>

Category	
End Uses	Household energy, lighting
Energy Technology	Micro-hydro
Issue	Capacity building, women’s empowerment
Level	Policy advice

This document is a report of a workshop held in Vavanga village on Kolombangara island, Solomon Islands from 20 to 25 November 1994. The report is a brief version of the full workshop report written by Sacha Giffard. The Zuke workshop was aimed at introducing women to all aspects of a village micro-hydro electricity (MH) project and the implications of the installation and upkeep of the system for a village. The five main areas covered by the workshop included: working as a unified community; planning; and empowering women as participants. The women discussed the impacts of energy technology to their lives and discussed issues of private versus community owned energy technology.

**(Source: APACE Website)**

5. APENPLAN, 1997, *Women in Development*, Project Proposal for The Asia and Pacific Energy Planning Network (APENPLAN) 1992 - 1997: Training in Sustainable Energy Development.

Category	
End Uses	Household Energy
Energy Technology	
Issue	Quality of life, capacity building
Level	Project/programme plan

This document is a project proposal compiled by the Asian and Pacific Energy Planning Network aimed at building human resource capabilities essential for promoting energy systems that are economically affordable and environmentally sustainable. The proposal sets out to conduct regional training needs assessments, develop appropriate training curricular and training manuals for training energy planners and managers in the region. The project document is subdivided accordingly: project description; implementation plan; organizational arrangements; budget; and a list of annexes. The development objective, as contained in the project description, is to improve the socio-economic prospects of developing countries of the Asia-Pacific region. Embedded in this objective is facilitating the equitable balance between the needs of the industrial-urban development and those of rural development, with an emphasis on the economically disadvantaged. This part of the document also pays special attention to women. It acknowledges that current energy planning and management structures continue to be dominated by men and proposes to improve the conditions of women energy users in rural areas. This document could be useful to someone interested in incorporating gender into energy related development issues.

**(Source: SOPAC Secretariat – Fiji Islands)**

6. Bhikabhai Y., 2005, *Sustainability of Networks: Pacific Energy and Gender Network*, presented at the workshop on 'Reflecting and Acting Together To Strengthen Rural Women's Networks and To Fight HIV/AIDS in Rural Areas', 13 – 17 June, 2005, Brussels, Belgium organized by FAO.

Category	
End Uses	
Energy Technology	
Issue	Capacity building, women's empowerment
Level	Networking

This paper discusses the background, justification and operational details of the Pacific Energy and Gender Network (PEG) hosted by the South Pacific Geoscience Applied Commission (SOPAC). The paper first sets the context of the global and regional policy framework relevant to this initiative. Reference is made to the Rio Declaration, Agenda 21, World Summit on Sustainable Development Outcomes, UN Millennium Development Goals, and the 1994 Pacific Platform for Action for the Advancement of Women, as well as other regional energy meeting outcomes. This is followed by a description of the PEG mandate and highlights the endorsements made by the SOPAC Thirty-Second Annual Session in 2003 and the Regional Energy Meeting (REM 2004) held in Madang, Papua New Guinea in 2004. There is a section that describes the formation of PEG and how it operates. Information on funding sources and linkages to other Pacific gender initiatives is also provided. There is a brief description of a number of Pacific networks, and organisations PEG is linked to and these are: ECOWOMAN<sup>1</sup>, Asia Pacific Gender Science and Technology Project (APGEST)<sup>1</sup>, APACE Village First Electrification Group (APACE VFEG), and Melanesian Islands Village Electrification Group (MIVEG). The paper finally describes key strengths of the network and outlines future resource requirements to ensure the effectiveness of the network.

**(Source: SOPAC Secretariat – Fiji Islands)**

7. Biomass Technology Group (BTG), 1989, *Stoves in Fiji: An Evaluation of the JALEF Domestic Woodstove Programme*, Project No. 5100.16.94.175, South Pacific Bureau for Economic Cooperation<sup>2</sup> for the Pacific Regional Energy Programme.

Category	
End Uses	Household energy
Energy Technology	Improved stoves
Issue	Energy and livelihoods
Level	Evaluation study

This is an evaluative report of the Jalef Domestic Woodstove Programme that started in Fiji in August 1984. The purpose of the project was to increase the efficiency of woodfuel use, reduce reliance on imported fuels and to improve general health conditions in the kitchen. The Jalef stoves modified the already existing Fijian woodstove and the project was set up as a self-help community programme directed at rural Fijian villages. In 1987 the programme was cancelled and the report provides the details as to why this occurred. There were three key factors that contributed to the cancellation of the programme. First, the stove design was complicated in that it required changes to traditional cooking habits. Second, the choice of construction materials was unsuitable. Thirdly, the lack of training provided to technicians and villagers made it difficult to build the stoves properly. The report made recommendations for the following studies to be carried out: an in-depth market survey; development of a more appropriate woodstove; and a study on how to implement such a programme. The study also recommended that more emphasis

<sup>1</sup> Both ECOWOMAN and APGEST were dormant at the time of writing.

<sup>2</sup> Now known as Pacific Islands Forum Secretariat (PIFS)



be placed on urban/peri-urban woodstove programmes because fuel-wood scarcity is more severe in these areas and implementations may be less problematic.

**(Source: Fiji Department of Energy)**

8. Blainey J., Chandra Y., Sastry V., and Bryce D., 2004, "Networking Around Oceania: Pacific Regional Workshop on Gender, Energy and Sustainable Development", *ENERGIA News*, Vol. 6, Iss. 2, January. <http://www.energia.org/resources/newsletter/en-022004.pdf>

Category	
End Uses	
Energy Technology	
Issue	Women and technology, women's empowerment
Level	Policy advice, networking

This article is a report of the Regional Workshop on Gender, Energy and Sustainable Development, 4-8 August 2003. Forty-eight participants representing thirteen different countries and regional and international institutions were at the meeting and discussed the topics of gender and energy, community participation, the role of regional organisations, patterns of energy use, gender policies and practice in the Pacific region, the Millennium Development Goals and developed national action plans. Two key issues were highlighted at the workshop. First, was the inadequate energy service provided to a majority of the population in the Pacific Islands region. Second, was the almost non-existent awareness of the importance of women's involvement in the production and distribution of energy. The rest of the report gives a detailed account of the workshop including the workshop purpose and programme content, main recommendations, recommended follow-up activities and observations and remarks of the participants.

**(Source: ENERGI A website, SOPAC Secretariat – Fiji Islands)**

9. Blainey J., 2003, *Gender, Energy and Sustainable Development*. Paper presented at the Regional Workshop on Gender, Energy and Sustainable Development, 4-8 August 2003, Nadi, Fiji.

Category	
End Uses	
Energy Technology	
Issue	Energy and poverty
Level	Policy advice, Networking

This paper presents a general overview of gender and energy within a Pacific context. The paper starts by defining some key gender concepts then discusses what gender means within policy frameworks that are relevant to energy and sustainable development. These policies include the Millennium Development Goals, the WSSD Plan of Implementation and the Beijing Platform for Action. The paper then discusses the issues of gender and energy within the context of sustainable development in Pacific Island countries. Local community needs and access to energy technology are linked to regional sustainable development policy frameworks such as the SOPAC Sustainable Development Strategy and the Pacific Platform for Action for the Advancement of Women. Challenges to achieving gender equality in the Pacific are also addressed in this paper and the approach to dealing with these is proposed at the end of the paper. Some of the key actions proposed include research, mainstreaming gender into regional energy policies, networking and following a development approach that is consultative and participatory.

**(Source: SOPAC Secretariat – Fiji Islands)**

10. Bolabola C., 1988, "Appropriate Technology for Women: Has it Worked?" edited by Ruby Va'a and Joan Teaiwa, *Environment and Pacific Women: From the Globe to the Village*, Fiji Association of Women Graduates in association with the Institute of Pacific Studies, University of the South Pacific.

Category	
End Uses	Household energy
Energy Technology	Woodfuel
Issue	Women and technology, capacity building
Level	Case study

This chapter discusses the issue of appropriate technology (AT) and rural women in Fiji. The introduction of modern cooking items (e.g. Bombay pots) and methods (stoves) and its impacts on gender roles is first discussed. The author states that the impact of these new household appliances diminished the role of men in cooking, particularly in the use of traditional earthen ovens. The impact of modern agricultural and forestry practices on women's workload is also discussed. The growth of these activities is stated to have increased the number of duties for women compared to men. These implicate on the walking distance for women when gathering firewood and food. The promotion and implementation of appropriate technology initiatives for rural women in Fiji through the distribution of smokeless stoves is discussed and a number of factors that limit the effectiveness of these projects are described. These include inadequate community assessments, limited access to AT information, lack of skills transfer and inadequate community leadership. The author suggests that a more coordinated approach among women is required to bring about more appropriate agricultural practices and to ensure that women participate in technology decision-making and research. The need for women to raise awareness among policy makers and the corporate sector on matters relating to sustainable environmental management is also proposed.

**(Source: Secretariat of the Pacific Community (SPC) – New Caledonia)**

11. Bolabola C., 1991, "Woodstoves Programme and its Implications on Women and Household Energy Strategy", paper presented at the Pacific Regional Seminar on *Household Rural Energy*, Port Vila, Vanuatu, November 5-9, organized by UNDP/World Bank Energy Sector Management Programme.

Category	
End Uses	Household energy
Energy Technology	Improved stoves, woodfuel
Issue	Women and technology, health impacts on women, reducing workload
Level	Policy advice, case study

This paper discusses the changing role of women in household energy management in the Pacific by focusing on the introduction of improved woodstove technology. Woodstoves is looked at in particular in this paper because it is stated to be a key part of integrated rural household energy management. A brief background on the historical roles of women and rural kitchen designs is presented followed by an overview of household fuel management and health implications on rural women. The article then describes the introduction, promotion and dissemination of improved woodstoves in Fiji as well as in other parts of the Pacific. The woodstoves project was intended to reduce women's workload, improve women's working environment and to address fuelwood shortages in rural areas. The dependency of rural households on fuelwood is stated to continue in the long term for economic reasons and because woodfuel is integral to traditional cooking practices. The lack of success of the woodstove programme in the Pacific is described in the article to be due to inappropriate methodological approaches, lack of coordination by the community development agents such as NGOs and government departments involved in the initiative and the skills limitations and accessibility to effectively operate and maintain the technology at the local level. The article also emphasizes that

the dominant involvement of men in the design, installation and dissemination of the technology was also a major hindrance.

**(Source: Secretariat of the Pacific Community (SPC) – New Caledonia)**

12. Bolabola C., 1991, Energy for Living in the South Pacific: Problems and Prospects, *The South Pacific Journal of Natural Science*, Vol. 10.

Category	
End Uses	Household energy
Energy Technology	Solar energy, improved stoves, woodfuel, general renewable energy
Issue	Women's employment, women's empowerment
Level	Policy Advice

This document discusses the problems and prospects of energy in the Pacific Islands with an emphasis placed on renewable energy. An overview of energy source and use trends in the region is provided. With the growing emphasis on renewable energy in the Pacific, the paper argues the need for women to be more actively involved in energy decision-making and projects. This is because women are major collectors and users of woodfuel, which they often cook with. Efforts to improve cooking technology through the introduction of fuel-efficient woodstoves is highlighted and the lack of involvement of women in this initiative was stated as a hindrance in the success of the programme.

**(Source: University of the South Pacific – Fiji Islands)**

13. Booth H., 1991, *Papua New Guinea: A Statistical Profile on Men and Women*, UNDP/AIDAB/UNIFEM Pacific Mainstreaming Project.

Category	
End Uses	Infrastructure
Energy Technology	
Issue	Women's employment, women's empowerment
Level	Policy Advice

This publication provides a statistical profile on men and women within the national context of Papua New Guinea, mainly in the period between 1980 and 1991. An overview of the country's labour force by gender, industry and age is provided in the first part of the publication. The second part provides further details on the involvement of men and women in the various sectors including the economic, social and community development, education, health, women's affairs and the infrastructure sectors. These data also show the gender breakdown of sectoral involvement at various structural levels. In particular, Table 7 shows the gender ratio of people employed at the Department of Minerals and Energy according to four structural levels – executive, administrative, professional and technical. Although there is an energy subheading in the infrastructure section of the report, information is limited to the difference of fuel sources in urban and rural areas.

**(Source: UNIFEM Pacific Regional Office)**

14. Booth H., 1991, *Cook Islands: A Statistical Profile on Men and Women*, UNDP/AIDAB/UNIFEM Pacific Mainstreaming Project.

Category	
End Uses	Household energy, Infrastructure
Energy Technology	
Issue	Energy and livelihoods
Level	Policy advice

This publication provides a statistical profile on men and women within the national context of the Cook Islands, mainly in the period between 1980 and 1991. An overview of the country's labour force by gender, industry and age is provided in the first part of the publication. The second part provides further details on the involvement of men and women in the various sectors including the economic, social and community development, education, health, women's affairs and the infrastructure sectors. The section dealing with infrastructure provides data on various cooking amenities and methods used in various regions.

**(Source: UNIFEM Pacific Regional Office)**

15. Bryce D. and Soo C., 2004, "Bulelavata Women Speak Out", *ENERGIA News*, Volume 6, Issue 2, January. Available at: [http://www.apace.uts.edu.au/docpublish/bulelav\\_women.html](http://www.apace.uts.edu.au/docpublish/bulelav_women.html)  
<http://www.energia.org/resources/newsletter/en-022004.pdf>

Category	
End Uses	Household energy, energy for small-scale enterprises, lighting
Energy Technology	Micro-hydro
Issue	Capacity building, women and technology
Level	Policy advice, case study

This article describes the impacts of a rural micro-hydro energy project on women in Bulelavata village, Western Solomon Islands. The process of establishing the micro-hydro system in the village began in 1998 and was launched in 2001. The system produced 24kw and 1.5 km high voltage transmission line enabling the community to sell power to the Provincial Secondary School. The article discusses the impacts of the Bulelavata community micro-hydroelectric project on the local women. Impacts range from the practical, quantifiable advantages of lighting and community income to qualitative outcomes of solidarity and empowerment. The project was based on an affirmative agenda designed by APACE to allow for a meaningful participation by women within the existing Melanesian cultural and religious system. This was done partly by specifically outlining women's role in the project within the negotiated agreement between APACE and the community. Women were represented in the management committee on technical construction teams, in training opportunities and in distributing the electricity to meet women's needs and aspirations both in and outside the home. APACE conducted a long-term study of the impacts of the project on the community and surrounding areas and the article contains twelve anecdotal paragraphs of these impacts on women's lives. It also describes the process in which women in the community have become more organized in forming the Bulelavata Women's Committee (BWC). On the request of the community the BWC eventually became responsible for collection and banking of monthly electricity tariffs from all village households for the Village Hydro Management Committee (VHMC). Plans by the BWC to incorporate the health, hygiene, nutrition and sustainable agricultural benefits through the electrification project is highlighted and their involvement in energy discussions at the national level is also described.

**(Source: ENERZIA Website, APACE Website)**

16. Bryce P. and Soo C., 2004, "PICs: A Very Different Context", *ENERGIA News*, Vol. 6, Iss. 2, January.

Category	
End Uses	Household energy, energy for small-scale enterprises
Energy Technology	Micro-hydro, solar energy, general renewable energy
Issue	Energy and livelihoods, women's empowerment, energy and poverty
Level	Policy advice

This article discusses some factors, unique to Pacific Island Countries (PICs), that create challenges and opportunities to addressing the issue of gender and energy poverty in the region.

The demographic, population and cultural context in relation to gender in the Pacific is first provided. The article then discusses the inadequacies of traditional energy supply models to the region. These models are described to be paternalistic and institutionalized and inappropriate to the Pacific because of its small isolated communities and physically and culturally diverse 'consumers'. The lack of cash-based economies in many PICs meant that energy projects could not pass financial modeling tests. The article argues that energy supply and energy demand assessments are distinctive. Consumer needs (demand) is assumed to comprise of lighting and household appliances while little consideration is put into transforming society's social and economic opportunities. Such an approach requires an energy design that is more responsive to energy usage needs and patterns of women and other community sub-groups. The predominantly subsistent economy of many Pacific Island communities is also a major hindrance to expanding the private sector energy supply model. The article states that many energy initiatives in the region require heavy subsidies to operate in the long term. As such, it is proposed in the article that energy initiatives in the region follow a small-scale community-based approach that uses locally available renewable energy sources. This proposal is supported by case studies in Fiji and the Solomon Islands highlighting the success of such a model.

**(Source: ENERZIA Website, SOPAC Secretariat – Fiji Islands)**

17. Case C., 1987, *Alternative Energy Projects on American Samoa, The Commonwealth of Northern Mariana Islands, The Federated States of Micronesia, Guam, and the Republics of the Marshall Islands*, United States Department of Energy and the Trust Territory of the Pacific Islands (p66-68, 112).

Category	
End Uses	Energy for small scale enterprises
Energy Technology	Biogas conversion, general renewable energy
Issue	Energy and livelihoods
Level	Policy advice

This book gives an overview of alternative energy projects that have been tried in the Pacific islands affiliated to the U.S including American Samoa, the Commonwealth of the Northern Mariana Islands, the Federated States of Micronesia, Guam, the Republics of Marshall Islands and Palau. The book describes 100 alternative energy projects that have been piloted on the islands since the mid 1970s. Such information is intended to provide ideas to energy workers, reduce work duplication and highlight project successes and failures. The alternative energy projects presented in this book refers to those that use indigenous and renewable energy sources that reduce local dependency on imported petroleum for electricity or liquid fuels. There are three sections in the book. Section 1 provides a one page summary of each of the 100 projects which are grouped geographically. The summaries contain information such as the location, cost, completion date, funding source, designer of supplier, contact office and a paragraph describing the project. Each summary also contains a list of literature for additional information. Section II list 381 reports and studies that describe the projects or have contributed to them. Section III contains appendixes and indexes containing very brief descriptions of 21 planned projects to be sponsored by the U.S. Department of Energy. Although a gender analysis is not provided in each project, certain projects (#59, #60 and #100) demonstrate energy initiatives that encourages people to use appropriate technology that will not conflict with their traditional culture. Some of these technologies include solar crop driers, efficient wood cooking stoves and solar ventilators.

**(Source: Pacific Islands Forum Secretariat – Fiji Islands)**

18. Clancy J. and Dutta S., 2005, *Women and Productive Uses of Energy: Some Light on Shadowy Area*, Paper presented at the UNDP Meeting on the Productive Uses of Renewable Energy, Bangkok, Thailand 9 – 11 May 2005.

[www.serd.ait.ac.th/.../Papers/Women%20and%20Productive%20Uses%20of%20Energy%20Clancy%20%20Soma-final.pdf](http://www.serd.ait.ac.th/.../Papers/Women%20and%20Productive%20Uses%20of%20Energy%20Clancy%20%20Soma-final.pdf)

Category	
End Uses	Household energy, energy for small-scale enterprises
Energy Technology	Micro-hydro
Issue	Energy and poverty, women's empowerment
Level	Policy advice

This paper briefly summarises key issues in mainstreaming gender concerns in a UNDP initiative on Productive Uses of Renewable Energy (PURE). The purpose of the PURE initiative is to link energy service with poverty eradication. The paper begins by discussing gender issues with the energy sector in general, then within the context of PURE. Good practices from past experiences are then presented upon which specific strategies for addressing gender issues in PURE is based. While the paper is written from a global perspective, specific reference is made to experience in the Pacific when discussing ways of improving the position of women through energy. A community-owned micro-hydro project in Bulelavata, Solomon Islands, where women are actively engaged in the operation and management of the technology, is described to promote the need for alternative institutional models for energy management and use. It is argued in the paper that cooperation by women as energy entrepreneurs may not necessarily be resisted by men. Details of six case studies from around the world are summarised in the annex of which the Bulelavata Micro-hydro Project is included.

Source: <http://www.serd.ait.ac.th>

19. Cook Islands, Energy Division, 2003, *Cook Islands National Energy Policy*, Cook Islands Ministry of Energy.

Category	
End Uses	Lighting, transport
Energy Technology	General renewable energy,
Issue	Women's empowerment, energy and livelihoods
Level	Policy advice

This policy document characterises the Cook Island Government's vision and direction for developing the nation's energy sector. It provides a framework for which the Energy Division as well as other public and private sectors can base their plans and investment on. The policy recognizes the importance of energy efficiency and renewable energy to the principles of sustainable development. The policy document is divided according to the following six sections: Introduction; Strategic Framework; National Vision and Policy Statement; Guiding Principles; Policies and Goals; and Strategic Plan. *Gender* is included as a guiding principle in this policy and is recognised as crucial to the successful implementation of the policy and in ensuring the long-term sustainability of future energy sector activities. The policy states that the integration of energy initiatives into national gender policy strategies will assist in identifying any gender gaps and ways of addressing these gaps.

**(SOPAC Secretariat –Fiji Islands)**

20. Currie C., 1993, *Urban Energy Survey*, Prepared for the Department of Energy, Fiji. .

Category	
End Uses	Household energy
Energy Technology	Paraffin/Kerosene, grid electricity, fuelwood, LPG, solar energy
Issue	Quality of life, energy and livelihoods
Level	Policy Advice, research

This report presents the findings of an urban energy survey conducted in Fiji. Its purpose was: to provide a detailed assessment of the supply of, demand for, and use of energy inputs and the

component segments of each; to identify the extent of fuel switching between imported energy resources and indigenous resources, identifying the likely reasons for such a switch; and to identify the level of awareness of specific consumer categories/groups on energy efficiency issues and conservation measures. The survey covered 5000 energy consumers in three urban areas - Suva, Nadi and Lautoka. The report has two main parts of which Part A assesses patterns of supply and consumption as contained in the Department of Energy Statistics Yearbook. Part B analyses the results of the urban energy survey for each category of consumer – industrial, commercial and household. There is no specific mention of gender or provision of gender disaggregated data in this report. However, Chapter 7 provides details of the survey results conducted in the domestic sector that may be indicative of energy uses by different genders based on usage of various household appliances and energy sources.

**(SOPAC Secretariat – Fiji Islands)**

21. Economic and Social Commission for Asia and Pacific / Pacific Operations Centre (ESCAP/POC), 1996, *Working Together for Women*, ECCAP/POC, pp 41 -45.

Category	
End Uses	Household energy
Energy Technology	Woodfuel
Issue	Energy and poverty, reducing work load, capacity building
Level	Policy advice

This booklet discusses the issue of women and poverty in the Pacific within the context of the Beijing Platform for Action. Although gender and energy issues in the Pacific is not explicitly discussed, it is integral to the context of this document which defines poverty as the inability to meet the family's basic needs such as food, shelter, clothing, health care and education. The report states that women, who are largely responsible for food preparation, are impacted by biomass fuel shortages and access to food as a result of environmental degradation. The requirement for further research into the roles and interests of women within development projects is emphasized in this document. In particular, the participation of girls and women in science and technology is also proposed as an effective means of addressing women and poverty in the Pacific region.

**(Source: United Nations Development Programme – Fiji Islands)**

22. ECOWOMAN, 2001, The Asia Pacific GST Scanning Project: APGEST, *ECOWOMAN: Women, Science and Technology*, December Issue.

Category	
End Uses	Household energy
Energy Technology	General renewable energy
Issue	Women's empowerment, energy and livelihoods, capacity building
Level	Policy advice

This newsletter article summarises a scan on gender, science and technology conducted in Fiji. The project is part of a bigger project titled *Assessment of Resources, Best Practices, and Gaps in Gender, Science and Technology in the Asia-Pacific Region*. This assessment was administered by UNESCO and originated from a meeting by a group of women scientists in India in 1996 who developed activities on Gender, Science and Technology (GST) to empower poor women. Twelve countries participated in the scanning project of which three were from the Pacific (Fiji, Kiribati and Samoa). The Fiji report found a lack of data distinguishing women's representation in science based sectors and almost all agencies surveyed are unable to conduct a gender analysis of their organizations and organizational activities. Further, the report showed that subjects like physics is still considered unsuitable for girls. In relation to gender and energy in the Pacific, the report concluded that:

- Specific gendered policies were needed by Government and the private sector;
- A policy was needed to proactively encourage girls into science careers;
- Water and renewable energy were vital concerns for women; and
- Women need to be in positions where they can influence decision making for sustainable livelihoods.

The article also highlighted five case studies in the report which included a rural electrification project implemented by the Fiji Department of Energy and a series of physics workshop for girls in rural secondary schools by the Fiji Association of Women Graduates.

**(Source: UNIFEM Pacific Regional Office)**

23. ENERGIA, 2004, “8 Steps to Village Electricity – Community Manual”, *ENERGIA News*, Vol. 6, Iss. 2, January. (Author of the article: Bryce.D) Available at: <http://www.energia.org/resources/newsletter/en-022004.pdf>

Category	
End Uses	Household energy, lighting
Energy Technology	Micro hydro, general renewable energy
Issue	Women’s empowerment, capacity building
Level	Project/programme plan

This newsletter article is a review of a manual designed to assist communities develop their own energy sources by engaging with the Village First Electrification Programme (VFEP). The manual is described in the article as an affirmative action approach that aims to empower communities to become both the decision-maker and the project driver. A key criterion outline in this manual is the women are actively involved in all stages of the project, in ongoing electricity management, and in the resultant economic and social benefits.

**(Source: ENERGIA Website, SOPAC Secretariat – Fiji Islands)**

24. ENERGIA, 2004, “Gender and Energy in Oceania”, *ENERGIA News*, Vol. 6, Iss. 2, January. (Authors of the article: Bryce. D, Sauturaga.M ) Available at: <http://www.energia.org/resources/newsletter/en-022004.pdf>

Category	
End Uses	Household energy, energy for small-scale enterprises
Energy Technology	Micro-hydro, biomass conversion
Issue	Energy and livelihoods, women’s empowerment
Level	Policy advice

This newsletter article reports on the outcomes of the Pacific Regional Workshop on Gender, Energy and Sustainable Development held in Nadi, Fiji in 2003. The article also discusses some key issues related to addressing gender and energy issues in the Pacific Island Countries (PICs). These include:

- the lack of reliable statistics relating to biomass cooking in the PICs making it difficult to assess the gender inequity pertaining to this activity;
- the novelty of the gender and energy concept in the Pacific region;
- the need for energy programmes to adopt a holistic development approach if gender and social equity considerations is to be addressed; and
- the emphasis on small scale community-based energy projects as an effective tool for empowering women in rural areas as seen from the Bulelavata project in the Solomon Islands.

The article ends by affirming ENERGIA’s commitment to addressing gender and energy issues in Oceania given the absence of formal gender-energy institutions on the region.

**(Source: ENERGIA website, SOPAC Secretariat – Fiji Islands)**



25. European Commission DGVIII Development. 1999. *Evaluation of the PREP Component: PV Systems for Rural Electrification in Kiribati & Tuvalu*, European Commission, pp vi – ix.

Category	
End Uses	Household energy, lighting
Energy Technology	Solar energy
Issue	Capacity building
Level	Evaluation study

This is an evaluative report of the Pacific Regional Energy Programme (PREP) in Kiribati and Tuvalu. The programme was funded by the European Commission in 1984 and aimed to promote renewable energy and reduce dependence on imported fuels. The report assesses the technical, socio-economic, financial and institutional viability of Solar Photovoltaic (PV) technology in the two countries and its sustainability in the outer islands. The context of each country relating to energy and the relevance of the project to each country is first provided in the report. This includes a description of the energy situation, needs and use in the two countries as well as the identified beneficiaries of the project. The other parts of the report describe the project implementation, results and effectiveness, impacts of the project, financial and economic analysis, sustainability and recommendations. The socio-economic benefits highlighted in the report mainly relate to efficiencies in household activities, night fishing, health care and domestic and public lighting.

**(Source: SOPAC Secretariat- Fiji Islands)**

26. Evening L., 1998, *Exploration into the Under-Representation of Girls in Physics in Fiji Secondary Schools*, A Thesis Submitted in Fulfillment of the Requirements for the Degree of Master of Philosophy, University of Waikato, Hamilton, New Zealand.

Category	
End Uses	
Energy Technology	
Issue	Women and technology
Level	Policy advice, case study

This thesis investigates the issues associated with the under-representation of girls in Physics in Fiji secondary schools. The study included group interviews with 89 sixth form girls (44 Physics and 45 Non-Physics) from eight secondary schools in Fiji of which the following were explored: (i) perceived influences on the choice of their subjects; (ii) perceptions on the under-representation of girls in physics; and (iii) views about the nature of Physics. National enrolment data from the Ministry of Education was also obtained and analysed in order to assess the extent to which girls were under-represented in Physics in Fiji schools. The thesis opposes the argument that biological differences in boys and girls as an explanation of the lack of participation of women in science, particularly Physics. It argues that there are social explanations to such a trend. The framework of the study examines the social factors such as the home, culture, individual and school domains of girls' lives to determine how these contribute to girls' under-representation in Physics in Fiji. The thesis further argues that these factors are complex and closely inter-related.

**(Source: Fiji Women's Rights Movement)**

27. Fairbairn-Dunlop P., 2003, *Pacific Regional Gender Science and Technology Meeting*, UNESCO Meeting Room, Apia, Feb 26 – 28, Organised by UNESCO, APGEN and UNDP.

Category	
End Uses	
Energy Technology	
Issue	Capacity building, women and technology

Level	Policy advice
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This document is a report of the Pacific Regional Gender Science and Technology Meeting held in Samoa in February 2003. The objective of the meeting was to: review the relevance of the Gender Equality in Science and Technology (GEST) manual; develop training capacity on GEST in the region; and to identify national and regional activities for GEST. This initiative was part of the Asia-Pacific Gender, Science and Technology Project (APGEST) which aims to ensure women and girls have access to science and technology training and research and that women's needs are incorporated into national and regional science and research activities. Samoa, Fiji and Kiribati are the three Pacific countries included in this 12-country project. The report begins with a discussion on barriers to women's participation in science in Samoa. This includes factors relating to culture, physique (difficulties in handling heavy technical equipment) and educational systems and capacity. The Samoa GEST draft report was also presented and discussed and linkages were made with national policy framework related to women and youth. The process in which the GEST draft report was compiled in Fiji and Kiribati was also presented at this meeting. The review of the GEST training manual was conducted but there are no detailed records of discussions and feedback. The proposed plan of Action for GEST for Kiribati and Fiji is contained in the annex. **(Source: SOPAC Secretariat – Fiji Islands)**

28. Fiji, Department of Energy, 2003, *Energy Statistics Yearbook 1993-2000*, Department of Energy, Fiji Islands.

Category	
End Uses	Household energy, lighting
Energy Technology	Woodfuel
Issue	Energy and Livelihoods
Level	Policy advice

This publication provides statistical information on the following issues: energy sources and supply; energy transformation (electricity generation); energy consumption by source (coal, petroleum products, electricity, wood and bagasse); energy consumption by sector (industry, commerce, household, transport, agriculture and Government); and energy costs in Fiji. The statistics provided are not disaggregated according to gender. However, some data are categorized in a way that may allow for a gender analysis to be made based on assumptions. For example, the total quantity and proportion of fuel wood used for cooking (mainly done by women) in the years from 1993 to 2000 is contained in Table 20.

**(Source: Fiji Department of Energy)**

29. Fiji, Department of Energy, 2003, *Rural Solutions: Renewable Energy In Fiji*, Video production by Pasifika Communications, Office for the Promotion of Renewable Energy Technologies (OPRET), Department of Energy, Fiji Islands.

Category	
End Uses	Household energy, lighting, energy for small-scale enterprise
Energy Technology	Woodfuel, biomass conversion, micro-hydro, solar energy, grid electricity, biogas
Issue	Reducing workload, quality of life, energy and livelihoods
Level	Case study

This video production substantiates and promotes the use of renewable energy in Fiji. The video begins with a brief history of energy use in Fiji. The transition from traditional renewable sources of energy such as firewood, coconut oil and wind in pre-colonial times to the current dependency on electricity and fossil fuel is presented in the video to be problematic. This is because of water and air pollution arising from modern energy use activities. Further to this, fossil fuels and electricity are seen to be inaccessible to a majority of energy consumers in the region for

economic and geographical reasons. Such inaccessibility relates mainly to rural communities with a limited cash-flow and distantly located from the nearest electricity grid. The promotion of renewable energy in Fiji is based upon this predicament. Potential renewable energy sources available in Fiji include sunlight, water (hydro), wind energy, biomass (coconut husks and firewood), geothermal and ocean waves. To promote the development of small-scale community-based renewable energy initiatives, the video shows a number of such projects implemented by the Fiji Department for Energy. Some of the renewable energy projects presented in the video include: the mini hydropower supply in Muana, Naqaravatu and Wailevu in operation since 1998. The video shows that women are the main beneficiaries of rural electrification initiatives. Other benefits include the increase in income generation opportunities as a result of rural electrification and the long-term benefits to the natural environment.

**(Source: Fiji Department of Energy)**

30. Fiji, Department of Energy, 1995, *Survey on Energy Sources in Rural Areas*, Department of Energy, Ministry of Lands, Mineral Resources, Energy, Local Government and Environment, Government of Fiji.

Category	
End Uses	Household energy, lighting
Energy Technology	Paraffin/Kerosene, LPG, woodfuel
Issue	Energy and livelihoods
Level	Research

This publication is a report of a survey on energy sources in rural areas in Fiji. The project was initiated by the Asian Productivity Organisation (APO) and conducted by the Fiji Department of Energy (DOE). The purpose of the survey was to collect, analyse and assess the current rural energy sources and identify and appraise key problems and needs. The survey was conducted by the DOE staff who collected secondary data from various government departments and conducted face-to-face interviews with 359 rural households throughout the country. The survey report contains a section on women's involvement in rural energy supplies in which their role in the collection of firewood for household consumption is discussed. There is further information provided on the composition of fuel used for cooking followed by a discussion on the environmental implications of the use of woodfuel. The annex section of the report provides a more detailed account of the information gathered from the survey.

**(Source: Fiji Department of Energy)**

31. Filiai S. and House W., 1998, *A Statistical Profile of Men and Women in the Kingdom of Tonga*, Funded by NZODA though UNIFEM, Suva, Fiji.

Category	
End Uses	Household energy, lighting
Energy Technology	woodfuel, LPG
Issue	Employment for women
Level	Policy advice

This publication provides a statistical profile on men and women within the national context of the Kingdom of Tonga, mainly in the period between 1990 and 1998. The report starts with a discussion on gender issues in the national context. It then looks at the demographical characteristics and educational status of women in the country. This is followed by an overview of women in family life in Tonga which contains gender disaggregated data in the areas of health, family patterns, information systems, community affairs, crime and infrastructure. This part of the report contains data (Table 28) on the fuel source used for cooking and lighting in the years 1976, 1986 and 1996. This section of the publication also provides data on women's participation in the labour force but linkages to discussions on gender and energy in the Pacific region is very limited.

**(Source: UNIFEM Pacific Regional Office)**

32. Fleming S. and Tukuafu M., 1985, *Pacific Women's Regional Workshop*, July 25 – Sept 6, Tonga, Women's Development Training Programme, Institute of Rural Development, University of the South Pacific, Fiji Islands.

Category	
End Uses	Household energy
Energy Technology	Improved stoves, woodfuel
Issue	Women and technology, capacity building
Level	Case study

This publication is a report of a six-week rural development training workshop for Pacific Women held in Tonga in 1985. Two weeks of the workshop focused on energy/water supply and sanitation. The overall objective of the energy component of the workshop was to encourage the more efficient use of local energy sources in relation to the participants' own environment. Participants were: exposed to various energy sources and other new cooking technology; trained on the use of various stove types; and were taught basic financial management skills for production of these technologies as a business. The report describes the areas covered in this session which includes the development and use of wood-burning stoves, charcoal stoves, charcoal making and school stoves.

**(Source: Secretariat of the Pacific Community – New Caledonia)**

33. Fleming S. and Tukuafu M., 1986, *Report of the 1986 Women and Technology Workshop*, Women's Development Training Programme, Institute of Rural Development, University of the South Pacific, Fiji Islands.

Category	
End Uses	Household energy, infrastructure (pumps, mills)
Energy Technology	Woodfuel, LPG, general renewable energy
Issue	Women and technology, capacity building
Level	Case study

This publication is a report of the workshop on women and technology organized by the University of the South Pacific in August 1986. Topics covered at this workshop included: Communication; Business Skills; Water Supply and Sanitation; Energy; and Food Preparation. The overall objective of the Energy session was to encourage more efficient use of local energy sources in relation to the participants' own environment. Various energy sources and uses were discussed and participants were trained on how to make and use charcoal, bucket and wood-burning stoves and solar driers. Participants were also exposed to other energy technologies. The workshop included a field visit to a local school for a viewing of several school stoves in action as well as to examine various windmills on the island used for pumping groundwater. The report is limited to describing the topics and sub-topics delivered at the workshop.

**(Source: Secretariat of the Pacific Community (SPC) – New Caledonia)**

34. Fuels and Energy Management Groups Ltd. 1997. *Core Energy Programme of the South Pacific Forum Secretariat*<sup>3</sup>. Programme Review. Final Report.

Category	
End Uses	Household energy
Energy Technology	Woodfuel
Issue	Reducing workload, women and technology
Level	Project/programme plan

<sup>3</sup> Now known as Pacific Islands Forum Secretariat (PIFS)

This document is a description and a review of the Core Energy Programme run by the Energy Division of the South Pacific Forum Secretariat. The overall aim of the review was to assess whether the programme met its objectives, determine the relevance and impact of the programme and to suggest future activities and level of resource requirements. The review included two study visits to Fiji, Tonga, Vanuatu and Kiribati where meetings were held with various organizations to discuss the technical, institutional, economic and social aspects of energy use. The report is divided into five sections accordingly: Introduction; Forum Secretariat Energy Division Programme; Energy and Social Development; Review of Programme Performance; and Recommended Future Programme. There is a discussion on women's development issues in the third section. The principal concern was on women's work time and access to energy. The review showed that women spent up to two to three hours daily gathering sufficient fuelwood for a hot meal each day. Women's access to energy resources is also often disadvantaged because of limited exposure and training in technology use and management that men often have access to through the employment sectors. The review concludes that women's development issues in relation to energy was ultimately linked to improved health and living environment. There is also an appendix attached to this report that provides further details of the meetings and information collected from the individual country visits.

**(Source: SOPAC Secretariat – Fiji Islands)**

35. Griffen V., 1981, *Knowing and Knowing How: A Self Help Manual on Technology for Women in the Pacific*, Centre of Applied Studies in Development, University of the South Pacific, Fiji Islands.

Category	
End Uses	Household energy
Energy Technology	Woodfuel
Issue	Women and technology, capacity building
Level	Case study

This manual is a compilation of information on simple technology that may assist Pacific women in their daily household work. Its purpose is to ease women's workload in the Pacific. The book has been developed mainly for rural women, women in villages, and field workers who may be able to initiate activities based on the information provided. The five major areas covered in the book include: Energy; Water and Sanitation; Household Improvements; Food; and Housing. The introductory chapter discusses the issues of technology, development and women at the global level. The Energy chapter begins with a description of the various sources of energy that is available in the region including solar, wind, hydro and methane gas. There is also a discussion on national energy choices and the importance of women's participation in energy decision-making. The book identifies the improvement of wood burning stoves as the most important energy issue for women. The two key improvements required related to stove efficiency and smoke avoidance. There are detailed instructions on how to make and use the following: charcoal; Tongan kiln; charcoal stoves; charcoal burner; oil tin oven; smokeless stoves; oil drum stoves; haybox or fireless cooker; and sawdust burner. The other areas covered in the manual follow a similar format of instructions.

**(Source: Secretariat of the Pacific Community – New Caledonia)**

36. Gowen M., 1985, *Renewable Energy Assessments: An Energy Planner's Manual*, Pacific Islands Development Programme, East-West Center, Honolulu, Hawaii. (p 20-23, 119)

Category	
End Uses	National and regional energy planning
Energy Technology	Improved stoves, biogas, solar energy
Issue	Capacity building
Level	Policy advice

This manual is part of a series of technical tools compiled by the Pacific Islands Energy Studies Project of the Pacific Islands Development Programme (PIDP) and the Resource Systems Institute (RSI) of the East-West Center. The purpose of the energy project was to provide policy and planning assistance and technical support for energy development in the Pacific Islands region. The manual focuses specifically on renewable energy which, unlike fossil fuels, is site-specific. Hence, the author acknowledges that the energy assessment approach and techniques proposed in the manual may contain inaccuracies and gaps which can only be addressed by energy planners at the country-level. The major topical areas covered in the book include; definitions and concepts of energy measurement; financial and economic assessment; energy resource assessments; and energy technology assessments. Social accounts (referring to the costs and benefits of a project that cannot be valued in monetary terms but still have significant social impacts) and environmental impact assessments of the various energy options is covered in chapter 3. The two methods of social accounting proposed in this book are that of *cost effectiveness* and *appropriateness index* and these are expanded upon in this chapter. Energy technology assessment is discussed in chapter 5 in which comparisons between various energy conversion technologies is made. In this chapter, stoves, charcoal kilns, biogas digesters, gasifier systems, solar technology and wind technology options are assessed. The manual also contains nine figures and 32 tables that contain data relevant to efficiency assessments of various energy sources and technologies which includes assessments of site-specific energy projects in the Cook Islands and Federated States of Micronesia (FSM). While a gender assessment of energy project planning and impact analysis is not specified in this manual, the social impact assessment tools and the energy technology assessments provided may have implications on the gender and energy discussions in the Pacific islands region.

**(Source: Pacific Islands Forum Secretariat – Fiji Islands)**

37. Hemstock S. and Deepchand K., 2003, *Regional Biomass Project In-Country Training Report*, Training Report 109, SOPAC. Available at:

<http://www.sopac.org/tiki/tiki->

[sopac\\_download.php?path=/data/virlib/NR/NR0109.pdf&file=NR0109.pdf&loc=NR](http://www.sopac.org/tiki/tiki-download.php?path=/data/virlib/NR/NR0109.pdf&file=NR0109.pdf&loc=NR)

Category	
End Uses	Household energy
Energy Technology	Improved stoves, biomass. Forestry for fuel, woodfuel
Issue	Reducing workload, quality of life, employment for women
Level	Policy advice

This document is a report of the *Biomass Resources Assessment Training Workshop* for SOPAC member countries held in May 2003. The workshop objective was: to provide information on biomass energy sources; and to identify new possibilities, methods, and policies for the development of renewable energy (RE) with particular attention to biomass energy. NGOs and women's organizations were represented at the meeting and they participated in the identification of possible renewable energy projects. The transportation of biomass energy was specified to be beneficial for women. It was stated that time saved from gathering firewood for cooking may allow women and girls more time to spend on education and paid employment. Other initiatives suggested to reduce women's workload was the improvements to cooking technology. Modern cooking stoves are said to be more efficient, reliable and less toxic. Most importantly, improved cooking technology is stated to reduce work and time spent in food preparation by women. As such, activities relating to access to improved stoves was suggested. It was also recognized that biomass energy was a "poor woman's fuel" and that the transition from such an energy source would require access to modern cooking technology which often requires a certain level of household income. The workshop also discussed the findings of an assessment showing the biomass consumption patterns at different time periods in the Pacific. This included discussions relating to energy scarcity and problems that were expressed by women, farmers and village leaders during the survey.

**(Source: SOPAC Secretariat – Fiji Islands)**

38. Hermanson D., 2003, *Rays of Hope: Renewable Energy in the Pacific Islands*, UNESCO.

Category	
End Uses	Household energy
Energy Technology	General renewable energy
Issue	Climate change
Level	Policy advice

This 32-page booklet gives a brief description of the need to reduce reliance on hydrocarbon fossil fuel and to move towards renewable energy regimes in the Pacific Islands region because of climate change. The document provides a snapshot of the history of renewable energy in the Pacific, new energy sources, environmental concerns relating to energy consumption and energy dependency trends. The re-emergence of renewable energy use in the late 1970s and early 1980s is also described of which relevant energy sources are specified. A summary of energy consumption trends for Samoa, Kiribati, Papua New Guinea (PNG), Cook Islands and Fiji is provided. In this publication, the need to ensure that energy initiatives equally benefit women and men is emphasised. Further, an initiative taken by a women's group in the region (ECOWOMAN) to improve the lives of rural women through the availability of energy is referred to in the Fiji report.

**(Source: Pacific Islands Forum Secretariat –Fiji Islands)**

39. Institute of Natural Resources, 1978, *Wood as an Alternative Energy Resource (Seminar)*, University Bure, Laucala Bay Campus, University of the South Pacific, 3<sup>rd</sup> – 4<sup>th</sup> July, 1978, organized by the Institute of Natural Resources (USP) in conjunction with Department of Forestry (Fiji).

Category	
End Uses	Household energy
Energy Technology	Woodfuel, improved stoves
Issue	Women and technology, capacity building
Level	Policy advice

This is a report of the proceedings and papers presented at an energy seminar focusing on wood fuel in the Pacific. The seminar was organized by the Institute of Natural Resources in July 1978. A total of 21 papers were presented at the seminar which were divided according to the following sub-headings: Technical Considerations; Social and Communal Aspects; Electrical Power Generation; and Industrial and Commercial Applications. Some of the papers relevant to the issue of gender and energy in the Pacific included in the report are: Improving Cooking Devices Commonly Used in Rural and Semi-Rural Areas; Teaching Domestic Cooking in Schools and Community Education Centres; and The Effects of Cooking Methods on the Nutritional Values of Fijian and Indian Meals. The report also includes a presentation on the Role of Women's Interest Section in Rural Development in which some of the shortterm and long-term initiatives and projects being implemented at the time were presented.

**(Source: Secretariat of the Pacific Community – New Caledonia)**

40. Johnston P., 1984, Energy Consumption, Energy Development, *Energy Use and Resource*, Vol.5, No 5-6.

Category	
End Uses	Household energy
Energy Technology	Improved stoves, biomass conversion, woodfuel
Issue	Energy and livelihoods
Level	Case study, research

This article discusses the history and trends of energy use in the Pacific Island countries. The article does not provide a gender analysis or gender disaggregated data on the issue. However, it discusses certain household energy use patterns based on scale and source. There are also linkages made between energy types and household activities that may be useful to the discussion of gender and energy in the Pacific. The data provided shows that wood is the main fuel used for cooking in the Pacific and that shortages being experienced in certain parts including Malaita and North Guadalcanal in the Solomon Islands as well as in Funafuti, Tuvalu. There is also a brief description of fuel-efficient woodstove projects in the Pacific.

**(Source: Fiji Department of Energy)**

41. Johnston P., 1984, *Recommendations on Stove Programmes for Tonga*, United Nations Pacific Energy Programme.

Category	
End Uses	Household energy
Energy Technology	Improved stoves
Issue	Women and technology, capacity building
Level	Case study, research, project / programme plan

This report discusses the relevance of and recommendations for woodstove programmes and policy in Tonga. The report outlines the potential demand for and possible objectives of a stove programme by providing a background on current cooking practices and technology and energy accessibility. The criteria for a successful woodstove programme are presented in this report. The effective participation of women at the design, testing and dissemination stage was specifically emphasised. There is also a brief discussion on whether the stoves should be subsidized and recommendations are made on how such an initiative should be carried out in Tonga.

**(Source: Secretariat of the Pacific Community – Fiji Islands)**

42. Johnston P., 1984, *Review of Wood and Charcoal Stove Activities in Vanuatu*, United Nations Pacific Energy Development Programme.

Category	
End Uses	Household energy
Energy Technology	Improved stoves
Issue	Women and technology
Level	Case study, project/programme plan

This report is a review of a wood and charcoal stove programme in Vanuatu that was conducted in February 1984. The aim of the programme was to reduce dependence on imported cooking fuels, to improve the safety and efficiency of cooking and to provide employment. The report specifically states the participation of women at all levels of the programme. Some of the concluding remarks of the review include:

- Fuelwood collection difficulties;
- Marketability of charcoal and charcoal stoves;
- Sufficiency of resources to produce charcoal locally;
- Price relativity of charcoal based on location and alternative energy sources;
- Lack of interest and capacity to implement a woodstoves programme; and
- The need to improve charcoal stoves.

The rest of the report provides information on the organizations visited during the review.

**(Source: Secretariat of the Pacific Community – Fiji Islands)**



43. Johnston P., 1987, *Open Fire, Three Buckets and Smokeless: Comparative Performance Tests on Cook Stoves in Kiribati*, United Nations Pacific Energy Development Programme.

Category	
End Uses	Household energy
Energy Technology	Improved stoves
Issue	Reducing workload
Level	Case study, evaluation study

This publication is a report of the comparative cooking performance tests on three stove types (bucket, smokeless and open fire). The study was conducted in Kiribati in April 1986 and includes results of the tests and discussions with representatives with various stakeholders including representatives from the Ministry of Works and Energy and the Rural Training and Development Centre of the Tarawa Technical Institute of the Government of the Republic of Kiribati. The test results were categorized according to weight of fuel used per stove per test, time to boiling and total cooking time (average for each fuel and in total for each stove). The concluding remarks of the report presents further discussions on the importance of the test in relation to the socio-economic and environmental context of the local communities. These include issues such biomass fuel availability, smoke output and health, cooking efficiency and household budgets.

**(Source: Fiji Department of Energy)**

44. Johnston P., 1988, *Household Energy Consumption Survey: Marovo Lagoon Area, Western Province, Solomon Islands*, United Nations Development Programme (UNDP), Economic and Social Commission for Asia and the Pacific (ESCAP) and Pacific Energy Development Programme, Suva, Fiji.

Category	
End Uses	Household energy
Energy Technology	LPG, woodfuel, improved stoves
Issue	Health impacts on women
Level	Case study

This is a household survey report conducted in the Marovo Lagoon area, in the Solomon Islands in the period July 27 to August 4, 1987. The study quantifies the consumption levels of commercial energy sources, estimates household cash incomes and assesses the wood fuel use and availability within the local area. The study covered 125 of the 557 households in the district which comprises seven villages. Gender disaggregated data relating to energy consumption is not specified in the study but may be assumed based on the indicated energy consumption activities (e.g. cook, transporting, copra milling, etc.). The study results show the percentage of households that use commercial energy such as petroleum, dry cell batteries and kerosene for outboard motors and chainsaws and for lighting. The use of firewood for cooking and copra drying was also assessed. While all the communities surveyed have thick forest surrounding them, 58 per cent of the households surveyed expected firewood to become scarce in the next five years. The study also shows that the average household spends \$480 of the \$630 spent on commercial energy forms per year. Further, the level of expenditure in individual villages is inadequate to economically justify the introduction of more expensive rural electrification systems such as micro hydro, small diesel or small wood-steam generator systems. While the report concludes that firewood availability may not be a problem in future, there is a cause for concern over exposure to firewood smoke from traditional cooking methods. The report states that women are particularly exposed to smoky conditions because they do most of the cooking.

**(Source: Pacific Islands Forum Secretariat – Fiji Islands)**

45. Lechte R., Tavola H., Goodwillie D. and Burness I., 2001, *Assessment of Resources, Best Practices and Gaps in Gender, Science and Technology in Fiji*, UNESCO/UNDP/SPPD.

Category	
End Uses	Household energy
Energy Technology	General renewable energy
Issue	Women and technology
Level	Policy advice

This report assesses resources, best practices and gaps in gender and science and technology (APGEST) in Fiji. It is part of national and regional reviews of commitments stated in the 1996 Chennai Declaration aimed at actively facilitating science and technology for women's empowerment. In addressing the needs of poor women, the report focused on areas considered pertinent, including green health, biotechnology, information technology, renewable energy and water. Kiribati and Samoa were the other Pacific island countries to have undertaken the assessments. The report discusses basic policy decisions for research and development and its implications on women's empowerment. It states that scientists have a social responsibility to focus on technology that will be of economic value to people when addressing poverty such as electricity refinements for small systems and efficient and safer cooking methods which are not on the priority lists of government and research institutions. The lack of awareness of gender issues related to basic infrastructure such as water and renewable energy was also mentioned. A description of gaps relating to gender issues in renewable energy sector includes the absence of a gender policy in the Fiji Department of Environment and the limited representation of women in energy project management and operations. Other weaknesses identified in the report include the limited technology transfer to adequately support the subsistence sector and the lack of initial 'start up' investment for technology such as fish driers and solar generators. The report also presents the findings from the institutional scanning in tabular form in which areas including policies, programmes, gaps, miscellaneous notes and key contacts are included. In the annexes, a summary of country projects, institutions and experts/specialists on gender science and technology is provided of which a number of activities relating to encouraging women's involvement in the field of physics are highlighted.

**(Source: Pacific Islands Forum Secretariat – Fiji Islands)**

46. Leniston M., 2003, "Gender Mainstreaming the Pacific Islands Energy Policy and Plan (PIEPP, Oct 2002) – Draft Recommendations for Review of the PIEPP", *Regional Workshop on Gender, Energy and Sustainable Development*, 4 – 8 August, 2003, Mocambo Hotel, Nadi. (CD-ROM).

Category	
End Uses	
Energy Technology	General renewable energy, grid electricity, woodfuel
Issue	Women's empowerment, capacity building
Level	Policy advice

This paper briefly analyses the Pacific Islands Energy Policy and Plan (PIEPP) and identifies ways of improving the integration of gender issues into the policy. The article first highlights the parts of PIEPP that address gender then proposes three categorical areas in which gender can be further integrated. These are: gender mainstreaming in research and analysis; equal representation in community-based energy management models; and equal access to training and human resource development. The article further proposes that gender sensitive quantitative and qualitative indicators be developed to monitor and evaluate the benefits of energy initiatives to the both men and women. Other specific recommendations to the PIEP is presented in the fourth section of the paper in which text insertions are made to the PIEPP. A draft guideline for social impact and gender analysis on energy projects are contained in the annex attached to the article.

**(Source: SOPAC Secretariat – Fiji Islands)**

47. Lloyd R., Kumar M. and Metham P., 1982, *Household Energy Use in Fiji*, Report of the Nadi-Lautoka Domestic Energy Survey, Institute of Natural Resources, University of the South Pacific, Fiji Islands.

Category	
End Uses	Household energy
Energy Technology	Woodfuel
Issue	Health impacts on women, reducing workload
Level	Policy advice

This is a report of a household survey assessing household energy use patterns in Fiji. The survey was conducted in the Nadi and Lautoka area for the purpose of providing relevant and accurate information to the national policy development process. The survey included a sample of 826 households and they were categorised as urban, semi-urban and rural areas respectively. The report presents data relating to the proportion of different energy sources used and the survey results show a heavy dependency on LPG. While the data presented is not disaggregated based on gender, there is reference made to energy use related to cooking of which is mainly done by women. The survey found that 20 percent of all women still cook using woodfuel while 38 percent indicated that they had never used wood as fuel for cooking. The most common cooking method using woodfuel was open fire and this was followed by home made fire and commercial stoves accordingly.

**(Source: Fiji Department of Energy)**

48. Mario R., 2001, *The Regional Institutional Wood Fired Stoves Project in the Fiji Islands, Kiribati, Tonga and Tuvalu (An Evaluation of Phase II / Stage One)*, SOPAC Technical Report 327, Energy Unit, South Pacific Applied Geoscience Commission. Available at: [http://www.sopac.org/tiki/tiki-sopac\\_download.php?path=/data/virlib/TR/TR0327.pdf&file=TR0327.pdf&loc=TR](http://www.sopac.org/tiki/tiki-sopac_download.php?path=/data/virlib/TR/TR0327.pdf&file=TR0327.pdf&loc=TR)

Category	
End Uses	Household energy
Energy Technology	Improved woodstoves, infrastructure (pumps)
Issue	Women and technology, Capacity Building
Level	Policy advice

This report assesses the effectiveness and the sustainability of institutional woodstoves in the Fiji Islands, Kiribati, Tonga and Tuvalu. The report provides suggestions for future improvements in the implementation institutional woodstove projects as well as for the sustainable use of institutional woodstoves. The data gathered during the assessment concluded the following:

- The use of woodstove is subjective to constraints by the institutions;
- There were significant monetary savings by the institutions; and
- Hot water plumbing arrangements had to be improved on.

The report also further suggests the need for more woodstove construction training, monitoring and evaluation and the production of a Users Manual that includes basic maintenance procedures. The details contained in the report include: background information on the countries studied, regional issues relating to energy and woodstoves and description of woodstove construction and materials; impacts of the project on the environment, household spending and cooking habits; and the sustainability of the initiative. The questionnaire used for discussions and interviews was provided in the annex.

**(Source: Fiji Department of Energy, SOPAC Secretariat – Fiji Islands)**

49. Namoumou S., 2003, *Energy use Survey Report*, Prepared for Office for the Promotion of Renewable Energy Technologies, Department of Energy, Fiji Islands.

Category	
End Uses	Household energy, lighting
Energy Technology	Woodfuel, kerosene/paraffin, LPG
Issue	Financing access to energy
Level	Research

This publication is a report of a survey of 58 rural villages and settlements in Fiji to assess energy use, needs and opportunities in rural communities. The survey was an activity of a GEF/UNDP - funded project on *Promoting Sustainability of Rural Renewable Energy Service Companies and Renewable Energy Technologies*. Face-to-face interviews were conducted in this survey using structured questionnaires and this was conducted between May 2002 and February 2003. The survey results provide an overview of the communities surveyed in which there is a brief description on the role of women. The report states that while women have contributed extensively to the labour force, their contribution is regarded to be that of a subsistent or unpaid nature. The study results showing gender-disaggregated data is limited to the population composition in each village/settlement surveyed. However, details of specific energy consuming activities at the household level may be indicative of certain aspects of energy use patterns by women. This information can be found in Tables 10, 11, 12, 13, 20 and 21. Data presented in these tables show the energy sources and appliances used at the household level with a detailed emphasis on cooking activities.

**(Source: Fiji Department of Energy)**

50. Ofa L., 1980, *Tonga: Women and Development*. Paper presented at Consultation on Establishment of a Regional Network on Information on Women 5-9 May. Bangkok.

Category	
End Uses	Household energy
Energy Technology	
Issue	Energy and livelihoods, women's empowerment
Level	Case study

This paper is a presentation on the issue of women and development in Tonga. A key point highlighted in the presentation is the lack of an information dissemination facility for women in Tonga. It states that women's traditional role is often confined to household work such as cooking and firewood collection. The article also presents a survey result on the role of women in rural development of which there is a particular section on energy. However, information on this is limited to stating the minimal, if any, involvement of women in energy projects.

**(Source: Fiji Department of Energy)**

51. Pacific Islands Forum Secretariat, 2000, *Good Practice from the Pacific: Gender and Development*, Suva, Fiji.

Category	
End Uses	
Energy Technology	
Issue	Financing access to energy
Level	Case studies

This report discusses gender and development concerns in the Pacific Island Countries (PICs). It argues that men, historically, have benefited more from development interventions compared to women. The importance of assessing the level of benefits of development projects to different gender groups is highlighted in the report as vital and various means of doing this is discussed and presented through case studies. The report also highlights the need for further training in gender analysis as essential to the promotion of gender equality in development projects as well

as to sustainable development. The very limited involvement of women in energy development projects in the Pacific is particularly mentioned in the report. A key contributing factor to this is the lack of resource allocation by government and donors in ensuring that gender is incorporated into projects and that gender analysis of projects are made. As such, the report states that human and financial resource commitments from national governments and donors are required to ensure that energy projects are gender sensitive.

**(Source: Fiji Department of Energy)**

52. Pio S. and Tutua J., 2004, "Village Power in the Solomon Islands – A Grassroots Development", *ENERGIA News*, Vol. 6, Iss. 2, January. Available at:

[http://www.apace.uts.edu.au/docpublish/village\\_power.html](http://www.apace.uts.edu.au/docpublish/village_power.html)

<http://www.energia.org/resources/newsletter/en-022004.pdf>

Category	
End Uses	Household energy, energy for small-scale enterprises, lighting
Energy Technology	Micro-hydro
Issue	Capacity building, women and technology
Level	Policy advice, case study, networking

This article discusses the origins and progressive success of community-based micro-hydro initiatives in the Solomon Islands from the 1970s to 2004. The article begins with people from the village of Iri in the Western Solomon Islands who took a stand to protect their forest against an international logging company. A "community development plan" was developed after the community won the four-year campaign against the logging company. The provision of electricity supply from their water source was the cornerstone of this plan with the first village-based micro-hydroelectric system built in Iri in 1983 with the assistance of APACE. The article then describes the process in which the model of this first project was replicated in other communities in the Solomon Islands and eventually adapted into the national village electrification programme. The involvement of women in the village-based energy initiative is a key feature of the article. While the initial project in Iri did not have a policy commitment to women's participation, it included a consultative process that addressed the concerns of women. In 1993 an MOU was signed between the Western Provincial Assembly and APACE to plan and design a provincial village electrification programme based on the Iri community development model. The central role of women in village life was contained in this MOU and this was a unique achievement at that time. The participation of women throughout this programme was facilitated and monitored through APACE. This included the recruitment of women into the programme management team, the development of a Women In Development Policy and Manual and coordination of Women's Energy Awareness workshops aimed at enhancing the women's understanding of the implications of modern technology at the village level. In 1995 the Prime Minister approached APACE to design and implement a national village electrification programme based on the model piloted in the Western Province. The Village First Electrification Program – Solomon Island (VFEP – SI) was then set up to coordinate this national endeavor. The Solomon Islands Village Electrification Council was also formed and three places were constitutionally designated for women in the Council. However, the article states that the gender balance at this level was met more by change than procedure. Efforts continue at present to strengthen the recognition and position of women at all levels and further institutionalise the gender policy and programme contained in the Western Province model. The development of human capacity and institutional strength is key to this national project and the inclusion of women (including segregated, women-specific workshops) in training programmes have been reported. The success of this model is now being felt regionally with the Papua New Guinea Village Electrification Council, an indigenous Vanuatu NGO and the Bougainville Village Electrification Group joining the VFEP-SI to form a trans-border network called the Melanesian Village Electrification Group which endorses the original strong gender-based approach contained in the Village First model.

**(Source: ENERZIA Website, APACE Website)**

53. Pongi I. and Williams E., 2003, "USP 2002 Statistics, USP Gender Policy", *Regional Workshop on Gender, Energy and Sustainable Development*, 4 – 8 August, 2003, Mocambo Hotel, Nadi. (CD-ROM).

Category	
End Uses	
Energy Technology	General renewable energy
Issue	Women's empowerment, capacity building
Level	Policy advice, evaluation Study

This document is a powerpoint presentation made by the University of the South Pacific (USP) at the Regional Workshop on Gender, Energy and Sustainable Development. The presentation begins with an overview of USP's profile and gender policy, which addresses matters relating to staff recruitment and content of academic programmes. This is followed by an outline of academic programmes, research and consultancies that relate to energy. The course subjects include physics, mathematics, computing science, environmental science, marine science, engineering and GIS. There is also a Physics draft research plan of which topics include electrical communication, environment, nuclear physics techniques and renewable energy. There is a reported low enrolment numbers of female students in science and energy related courses of which the percentage per course is as follows: Engineering Technology 7.1%; Physics 25.1%; Energy Supplies 14.7%; Electrical Comm and Instr. 9.1%; Dyanamical Oceanography 0%. However, the course *Physics in Todays World* has a female enrollment rate of up to 60%. This course is designed for those that had not done physics beyond Form 6 level and will not pursue other physics courses. In the year 2002, 10% of Physics graduates were females and the figures for female Engineering Technology graduates was much lower. The 2002 USP Gender Policy may address new ways of dealing with the divide between "traditional" male and female areas of study such as providing scholarships for women in fields where they are under-represented.

**(Source: SOPAC Secretariat –Fiji Islands)**

54. PREA, 1992, *Pacific Regional Energy Assessment, Overview Report*. Pacific Islands Series No. 1, Vol 1, pp 20-21.

Category	
End Uses	Household energy
Energy Technology	Forestry for fuel, woodfuel, Liquid Petroleum Gas
Issue	Reducing workload
Level	Policy advice, research

This report assesses the issues and options of energy development in Pacific Island Countries. It focuses mainly on planning and policy implementation within the energy sector. Although the report does not include a gender analysis of energy issues and options, the involvement of women in household activities that require the use of energy such as cooking is referred to. The threat of increasing population and agricultural development on forested land is discussed in this report as a threat to the fuel wood supply and access. This means that women have to walk further to gather fuel for cooking. Such trends are reported to be experienced in key population centers in the region including Port Moresby, Lae, Port Vila, Honiara and Tongatapu. While the problem of access to woodfuel may be further exacerbated by population growth in the region, the report also states that such a trend may be curbed as more households utilize Liquid Petroleum Gas for cooking.

**(Source: SOPAC Secretariat – Fiji Islands)**

55. Richolson J., 1986, *UNIDO/Western Samoa Woodburning Stove Programme (Final Report)*, SSA Contract No. RP/SAM/84/001/11-01, United Nations Industrial Development Organisation.

Category	
End Uses	Household energy
Energy Technology	Improved stoves
Issue	Reducing workload
Level	Evaluation study

This publication is the final report of the UNIDO/Western Samoa Woodstove Programme carried out between the periods October 1985 to 7 February 1986. The report is in three parts, and provides details of the following:

- i. Programme work completed;
- ii. Follow-on work to be carried out in 1986; and
- iii. Description of a proposed national stove programme for Western Samoa.

The report also contains raw data such as household energy use, distribution of stoves for service trials in Upolu and Savai'i and a list of households and women's committees that were recommended for the service trials of wood and charcoal stoves.

**(Source: Fiji Department of Energy)**

56. Rogers B., 1982, *Women's Perspective on Development*, Waigani Seminar Address, Port Moresby, Papua New Guinea.

Category	
End Uses	Household energy
Energy Technology	Woodfuel
Issue	Women's empowerment, health impacts on women
Level	Policy advice

This paper is a presentation by Barbara Rogers at a seminar on *Women's Perspective on Development*, held at the University of Papua New Guinea in 1982. Although the article does not specifically relate to energy, the key argument can be linked to the issue, particularly in the discussion on women's work in rural areas. The article particularly highlights the increasing time taken by rural women to gather food and firewood as a result of the growing resource scarcity. Such a trend has given rise to the increasing preference for stored, canned or preserved goods which in turn greatly reduces the standard of nutrition for women and their families. The article argues that such a situation indicates that women's development has been ignored especially in rural areas.

**(Source: Fiji Department of Energy)**

57. Rosillo-Calle, F. 2003. *Synthesis Report for the Island Nations of Fiji, Kiribati, Samoa, Tonga, Tuvalu & Vanuatu*. SOPAC Technical Report 370, South Pacific Applied Geoscience Commission, Fiji Islands. Available at:

[http://www.sopac.org/tiki/tiki-sopac\\_download.php?path=/data/virlib/TR/TR0370.pdf&file=TR0370.pdf&loc=TR](http://www.sopac.org/tiki/tiki-sopac_download.php?path=/data/virlib/TR/TR0370.pdf&file=TR0370.pdf&loc=TR)

Category	
End Uses	Household energy
Energy Technology	Forestry for fuel, woodfuel
Issue	Women's empowerment
Level	Policy advice

This report assesses the availability, utilization and management of biomass resources in the following six SOPAC member countries, including Fiji, Kiribati, Samoa, Tonga, Tuvalu and Vanuatu. The emphasis on biomass energy is part of a Pacific region-wide approach to promoting

the move towards the use of renewable energy sources. The report states that rural populations and the urban poor are currently the main users of biomass energy. The regional move towards renewable energy is reported to be constrained by a number of factors. These include: institutional barriers; local hesitance in accepting new technology as a result of limited economic, technical and skills capacity; limited financial support and, most importantly, limited availability of biomass energy technologies. The report further states that the inadequate inclusion of women's needs and interest in energy policies and projects is also a key limiting factor given that they are the major users of biomass energy. The impact of deforestation on biomass supply is also discussed in the report with the main threats being subsistence agriculture, fuelwood collection (mainly by women), logging and population growth. There are, however, other potentially major sources of biomass energy in Pacific countries such as coconut bio-diesel, waste treatment and biogas production but technological development in these areas have been constrained. The report emphasizes that the barriers to achieving the desired energy regime changes regionally will continue to exist unless women actively engage in decision-making and policy planning within the sector.

**(Source: SOPAC Secretariat – Fiji Islands)**

58. Sauturaga M., 2004, "Electricity for Fijian Villages: Evaluation of the Muana Micro-hydro Project", *ENERGIA News*, Vol. 6, Iss. 2, January. Available at: <http://www.energia.org/resources/newsletter/en-022004.pdf>

Category	
End Uses	Household energy, lighting
Energy Technology	Micro-hydro
Issue	Women's empowerment
Level	Evaluation study

This article describes the process and outcomes of a participatory rural appraisal (PRA) that was conducted to evaluate the sustainability of a rural community-based micro-hydro project in Fiji. The PRA was conducted by a multi-disciplinary gender-balanced team of eight people from the Fiji Department of Energy. The villagers were divided into six peer-based groups and the tools used in the group discussions included: Resource and Social Maps; Venn Diagrams; Matrices; and Timelines. Some positive aspects of the PRA as discussed in the article are as follows:

- encouraged community participation in discussing issues relating to the project;
- the positive role of the women in the project was highlighted;
- the economic benefits of the project was accounted for; and
- problem areas were more thoroughly assessed.

The article concluded that the PRA clearly revealed the importance of the project to addressing the needs of each peer group, particularly women. It was also stated that it would have been more effective if the PRA process was followed in the planning and design stages of the project.

**(Source: SOPAC Secretariat – Fiji Islands)**

59. Sauturaga M., Bryant J. and Vega L., 2001, *Renewable Energy Service Companies for Rural Electrification in Fiji*, Presented at Solar Conference in Washington DC (April 2001).

Category	
End Uses	Household energy, lighting
Energy Technology	Solar energy
Issue	Capacity building
Level	Project/programme plan

This paper describes a rural electrification project designed by the Fiji Department of Energy. The projects aims to establish the legal, regulatory, financial, economic and technical infrastructure necessary for a renewable-energy-based rural electrification initiative that involves private



companies. The paper begins by providing a background on the energy sector in Fiji, renewable energy sources available and the current status of rural electrification in the country. Two major renewable energy projects implemented in rural areas are then described. These include the Nabouwalu Hybrid Power System and the Vunivau Solar Home System. These examples are indicative of the need for decentralized renewable energy-based electricity services in rural communities, of which is the basis of this project. A number of key barriers to renewable energy-based rural electrification in Fiji are outlined in the paper, which the project activities are designed to address.

**(Source: Fiji Department of Energy)**

60. Secretariat of The Pacific Community, Date Unavailable, *Regional Australia-France Rural Energy Project (RAFRREP)*, Project Design Document, SPC, pp 17, 25.

Category	
End Uses	
Energy Technology	General renewable energy
Issue	Energy and poverty
Level	Project/programme plan

This document is a project design document of a Pacific regional renewable energy programme to be funded by the Governments of Australia and France. Renewable energy technology has been identified as having the potential to reduce the percentage of the region's population that do not have access to electricity; and renewable energy is argued by the authors of this document to be the appropriate technology for development in the Pacific. The document also discusses a number of barriers in the region that limits the widespread introduction of renewable energy technology. The goal of the project is to improve the social and economic development in the Pacific region through the use of sustainable renewable energy. The ultimate target group of this project is the rural and outer island populations that do not have access to electricity. The document states that project impacts are expected to be beneficial for both men and women within that target group. A further explanation on the impacts of the project on the different gender groups is examined in section six which looks at feasibility issues. The section explains that based on previous experience with renewable energy projects, the implications will not vary greatly between men and women. This is because both would be provided with an equal share of opportunity, which is often improved access to media and better food storage systems. The section also states that the project will employ a participatory approach and collect sex-disaggregated data in relation to all activities in order to ensure a balanced involvement of men and women at all stages of the project. This document could be useful to someone interested in incorporating gender into energy related development issues.

**(Source: SOPAC Secretariat – Fiji Islands)**

61. Secretariat of the Pacific Community, 2005, *Revised Pacific Platform For Action on Advancement of Women and Gender Equality 2005 to 2015: A Regional Charter*, Proceedings of the 9<sup>th</sup> Triennial Conference of Pacific Women, 16-19 August 2004 and 2<sup>nd</sup> Pacific Ministerial Meeting on Women, 19-20 August 2004, Nadi, Fiji Islands, Volume I.

Category	
End Uses	Household energy
Energy Technology	
Issue	Women's empowerment
Level	Policy advice

This publication is the first volume of the review of the Pacific Platform for Action (PPA) undertaken by the Pacific Women's Bureau. The document assesses, both nationally and regionally, the progress made in the status of women and the achievement of gender equality

after 10 years of implementation. This first volume contains the Revised Regional Charter, including the outcomes of the 9<sup>th</sup> Triennial Conference on Pacific Women, held in Nadi, Fiji Islands in August 2004, the Nadi Declaration and Ministerial Communiqué, and outcomes of the 2<sup>nd</sup> Pacific Ministerial Meeting on Women that followed the Conference. Although the review does not make specific reference to gender and energy, other related issues are addressed such as women's participation in environmental management, access to education and training and access to basic services. A brief description of actions to undertake in addressing these issues is compiled in the first part of the document. The second part of the document contains a log frame on how to implement the recommendations.

**(Source: UNIFEM Pacific Regional Office)**

62. Secretariat of the Pacific Community, 2005, *Revised Pacific Platform For Action on Advancement of Women and Gender Equality 2005 to 2015: A Regional Charter*, Proceedings of the 9<sup>th</sup> Triennial Conference of Pacific Women, 16-19 August 2004 and 2<sup>nd</sup> Pacific Ministerial Meeting on Women, 19-20 August 2004, Nadi, Fiji Islands, Volume II.

Category	
End Uses	
Energy Technology	
Issue	Women's empowerment, women and technology
Level	Policy advice

This document is the second volume of the review of the Pacific Platform for Action undertaken by the Pacific Women's Bureau. The document contains technical papers that were presented at the 9<sup>th</sup> Triennial Conference of Pacific Women titled "Gender Equality: Commitment or Tokenism". Policy makers, academics and civil society representatives came together at this conference to discuss gender issues in the development process of Pacific Island countries and territories. This forum also made recommendations to governments, multilateral and bilateral organizations and non-governmental organisations for future action in addressing gender issues in the region. There are seven technical papers contained in this report. The first paper presents an evaluation of the thirteen critical issues relevant to the status of Pacific women from 1994 to 2004. Environment is one of the critical issues and the role of civil society organizations in promoting women and girls' access to science and technology is mentioned in this paper. The second technical paper is a review of the institutional mechanisms, policies, legislation and programmes in support and promotion of gender equality. The report describes the regional and international commitments of Pacific Island Governments relevant to gender. Although energy and gender is not explicitly discussed in this paper, general policy frameworks relating to gender in the various sectors is described. There is also mention of improving the education system at all levels so that more women are involved in non-traditional courses of study, especially vocational technical courses. The other five papers contained in the report discuss gender issues as they are related to globalisation, HIV/AIDS, government budgets, migrant workers, tradition and religion in the Pacific region.

**(Source: UNIFEM Pacific Regional Office)**

63. Siwatibau S., 1981, *Rural Energy in Fiji: A Survey of Domestic Rural Energy Use and Potential*, Ottawa, Canada. IDRC, pp 21-45.

Category	
End Uses	Household energy
Energy Technology	Woodfuel, improved stoves
Issue	Health impacts on women, reducing workload
Level	Evaluation study

This report is an assessment of energy use and needs in selected rural areas in Fiji, conducted in 1981. Part of this assessment was to improve conditions of domestic cooking. The assessment

included a survey of 115 households focusing on: fuelwood consumption, stove design, home heating, kerosene cookers, lighting, hot water systems, biogas digesters, suitable waste management and energy and rural development. The survey results showed that open fire cooking was still prevalent, which was still done by 52.9 per cent of respondents. The survey also showed that the women interviewed had heard of one or more alternative means of cooking and 83.3 per cent wished to have access to better cooking facilities. A key problem with open fire cooking relates to firewood gathering as it is time consuming and particularly difficult during unfavorable weather conditions. The current cooking practice was also stated to be detrimental to women's health with survey results showing 83 per cent of Natia village women and 91 percent of women in Nacamaki village complaining of eye problems. The report states that although firewood is a renewable source of energy in the Pacific, the impact of its use in local communities is problematic, especially for women. The report concludes with emphasizing the need for clean, cheap, wood burning stoves with increased efficiency in local communities.

**(Source: University of the South Pacific – Fiji Islands)**

64. Siwatibau S., 1978, *A Survey of Domestic Rural Energy Use and Potential in Fiji*, International Development Research Centre, Ottawa, Canada. (p 1, 2, 79, 104)

Category	
End Uses	Household energy
Energy Technology	LPG, biogas, improved stoves, woodfuel
Issue	Energy and livelihoods, health impacts on women
Level	Policy advice, evaluation study

This publication is a survey report of selected rural areas in Fiji published in 1978. The survey objectives were fourfold: to assess rural energy needed to improve living standards; to assess more efficient alternative energy sources; to determine the economic and social viability of existing biogas systems; and to explore more energy-efficient cooking methods in rural areas. The report provides information on energy-use levels of various household activities and technology. This includes detailed accounts of the types of stoves used in the rural areas and the need for more efficient, cheaper and cleaner wood-burning stoves. The report also contains case studies that describe the roles of women's groups in the rural setting as well as discusses the social factors associated with wood use in rural areas. Some of the issues include the health impact of smoky kitchens on women; and time and effort put into collecting firewood for cooking.

**(Source: Pacific Islands Forum Secretariat – Fiji Islands)**

65. Siwatibau S., Lechte R., Agar J., Simmons D. and Sofield C., 1985, "Women in Development Planning: Fiji", edited by Noeleen Heyzer in *Missing Women: Development Planning in Asia and the Pacific*, Asian and Pacific Development Centre, Kuala Lumpur, Malaysia.

Category	
End Uses	Infrastructure (platforms)
Energy Technology	Woodfuel, LPG
Issue	Women's empowerment, women and technology, capacity building
Level	Policy advice

This book is the outcome of a five-country project on 'Women in Development Planning' in Asia and the Pacific. It presents the growing need to incorporate the interests and needs of women in the development planning process. The third chapter of this book focuses on women and development planning in Fiji. In the chapter, Fiji's eighth development plan (DP8) covering the years 1981-5 is analysed in relation to its impact on women. The basic needs approach is particularly flagged in this chapter and some of the key areas covered within the discussion include rural technology, housing, natural disasters, employment, education and energy. The

limited access to rural technology by women is a key reason to why women's work is of less value. The authors argue the need for women to be involved in the decision-making, installation, management and maintenance of technology systems. To effectively implement a basic needs strategy, it is recommended that women be allowed equal access to education and research in the fields of technology. The section on infrastructure and energy particularly outlines women's energy use patterns. This discussion focuses mainly on household energy use and woodfuel in which past governmental initiatives to address problems in this area is described. The authors further recommend that women need to be more involved in energy project planning and implementation at the local level.

**(Source: Secretariat of the Pacific Community(SPC) – New Caledonia)**

66. Siwatibau S., 1987, *Urban Energy in Fiji: A Survey of Suva's Household, Industrial and Commercial Sectors*, Technical Study 59e, International Development Research Centre, Ottawa, Canada.

Category	
End Uses	Household energy, transport
Energy Technology	LPG, woodfuel
Issue	Energy and livelihoods
Level	Policy advice, evaluation study

This publication is a report of a survey conducted to assess the use of energy of household, industrial and commercial sectors in Suva, Fiji's capital. The survey included 1011 electrified households, 301 non-electrified households, 76 industrial establishments, 77 commercial organizations and 10 large office buildings. The survey showed that transportation was the most important single use of energy (38 percent total demand) at the household level, followed by cooking which accounted for 36 per cent. There is a nine page analysis of the data pertaining to household cooking energy consumption, which is supported by figures and tables. Analysed data is also provided for household energy consumption levels for lighting and transportation purposes. The industrial establishments surveyed were sub-catergorised accordingly: food, miscellaneous, nonmetallic, chemicals, machinery/equipment, paper/printing, wood, clothing/footwear. The number of employees of the industries surveyed are also provided. Commercial establishments included in the survey were categorised accordingly: shops, educational, residential, recreational, catering establishments, service centers and unique buildings.

**(Source: Pacific Islands Forum Secretariat – Fiji Islands)**

67. Siwatibau S., 1991, "Women's Concerns and Social Efficiency in Rural and Household Energy Policies", paper presented at the Pacific Regional Seminar on *Household Rural Energy*, Port Vila, Vanuatu, November 5-9, organized by UNDP/World Bank Energy Sector Management Programme.

Category	
End Uses	Household energy
Energy Technology	Woodfuel
Issue	Women's empowerment
Level	Policy advice

This paper discusses the incorporation of gender into national energy policies and programmes. The author argues that economic and energy indices used to assess energy efficiency for large-scale conventional energy systems are not applicable to the rural and household energy sectors. A third index - social efficiency – is suggested. The proposed "social efficiency" criteria includes assessing local people's behavior, status and priorities in relation to rural and household energy projects – especially women who are the chief managers of households. The incorporation of women's views into the various levels of decision-making on energy is particularly discussed and

a model for doing this at the national level is provided. The paper further provides a list of indicators for assessing the social efficiency of rural and household energy projects and the importance of such initiatives to be community-driven is particularly emphasised. A distinction between rural energy and household energy in relation to women's concerns is specified in the article and its implications on energy policies and programmes within these two sectors is discussed. The main themes highlighted throughout the articles include: the need to re-orient approach to rural energy planning; planner's priorities differ from women's priorities; and the success of rural energy and household energy projects are dependent on all three criteria - social efficiency, economic efficiency and energy efficiency.

**(Source: Secretariat of the Pacific Community – New Caledonia)**

68. Siwatibau S., 1992, *Urban Energy Use in Vanuatu: A Report on a Survey of Household and Commercial Energy Use in Vanuatu's Two Main Urban Centres – Port Vila and Luganville*, Forum Secretariat.

Category	
End Uses	Household energy
Energy Technology	LPG, woodfuel
Issue	Energy and livelihoods
Level	Case study, evaluation study

This report presents the findings of a survey of sample households and commercial organizations' energy use in Port Vila and Luganville conducted during the first two weeks of December 1991. The survey found that wood was the most widely used fuel in these urban centers with 83 percent of Port Vila homes and 97 percent of Luganville homes consuming an average of 38.84 kg and 61.3 kg per week respectively. About 50 percent of Port Vila households and 25 percent of Luganville households were electrified. The report contains a wide range of tables and figures showing household profiles and detailed information relating to energy sources, uses and energy consuming technologies. Specific attention is paid to energy consuming technology related to cooking and gender disaggregated data is provided for household cooking activities (Page T2 – T4). Other gender-disaggregated data provided includes that which shows the incidence of the eye and chest health problems by household members (Page T19) and the level of income and energy expenditure by male and female-headed households. While the other energy-related data presented do not make gender distinctions, certain assumptions may be made based on the information provided related to energy consumption activities and energy technology used.

**(Source: Pacific Islands Forum Secretariat – Fiji Islands)**

69. Siwatibau S., 1992, *Energy Use in the Cook Islands: A Report on a Survey of Household, Commercial/Industrial and Agricultural Energy Use in the Cook Islands*, South Pacific Forum Secretariat, Suva, Fiji.

Category	
End Uses	Household energy
Energy Technology	LPG, improved stoves, woodfuel
Issue	Energy and livelihoods
Level	Evaluation study

This publication is a report of a survey conducted in the Cook Islands in November 1991. The survey was conducted in Rarotonga and eight other islands with the aim of assessing energy consumption levels of households, businesses, public bodies and farming equipment. The survey found that households were the main energy consumers and all firewood consumed was for cooking purposes. The report contained 30 figures and 92 tables providing details of energy source and use levels of households, businesses, public sectors and farms in the nine sites surveyed. Gender disaggregated data on energy use is specified mainly in the household survey results with consumption at the household level for cooking being substantial. There are three

tables in page 79 showing the composition of family members who cook and women make up 73 percent of this. The report also shows that the health effects resulting from cooking is rarely negative because of the cooking technology used and the kitchen design of the households in the surveyed areas. There is also data provided in page 103 that distinguishes household numbers that are headed by men and those by women in the nine surveyed areas. While the other figures gathered from the survey do not explicitly distinguish between male and female users, this may be implied based on the energy activity and technology specified such as tractors, stoves, transport, cooking, etc.

**(Source: Pacific Islands Forum Secretariat – Fiji Islands)**

70. Siwatibau S., 2005, *Gender and Renewable Energy in the Pacific*, Social Factors and Use of Renewable energy experience from the Pacific (Draft), UNESCO. <sup>4</sup>

Category	
End Uses	Household energy, infrastructure
Energy Technology	Improved stoves, micro-hydro, biogas, grid electricity, decentralized electricity, general renewable energy, solar energy, forestry for fuel.
Issue	Employment for women, health impacts on women, capacity building, energy and livelihoods, women's empowerment, quality of life
Level	Policy advice

In this chapter, the issue of gender and energy in the Pacific islands is examined. The identification of links between the roles of women and men and the impact of this on the supply and/or use of energy as well as on the quality of life of the different gender groups is central to this discussion. The article is divided according to the four following areas – domestic, commercial and industrial, renewable energy and the public sector. Discussions on domestic energy highlights: the significant role of women in the management of domestic energy supply; the predominance use of wood for cooking therefore implicating on the health of women; the involvement of men in cooking for large feasts requiring the use of firewood from larger trees impacting on forest covered areas; changing gender roles as a result of access to electricity and modern appliances; and domestic energy use by small-scale businesses run by women. This article also contains a table showing the details of the different household tasks performed by men and women and their implications on energy policy. In the section pertaining to the commercial and industrial sectors, current trends of centralized energy management is described and opportunities to introduce more decentralised systems of small-scale renewable energy projects is outlined. It is argued that small-scale decentralized energy systems would be more gender equitable. The section also discusses how labour migration and settlement pattern need to be taken into account in the planning of energy projects. The section on renewable energy provides further details on the benefits of small-scale renewable energy projects in relation to gender equity. This argument is supported by a case study from the Solomon Islands. Discussions relating to the public sector and policy development focuses on employment statistics showing a pre-dominance of men in the formal energy sector – whether in renewable or non-renewable energy systems. The article concludes by stating the need to promote a gender-balanced approach in the development and management of energy projects and programmes.

**(Source: SOPAC Secretariat – Fiji Islands)**

71. SOPAC, 2000, *Energy and Sustainable Development: Strategies and Recommendations*, Submission at the 9<sup>th</sup> Session of the Commission on Sustainable Development, South Pacific Applied Geoscience Commission, Suva, Fiji Islands.

<sup>4</sup> This publication is expected to be released in 2006. The details of this draft document focuses mainly on the chapter by Ms Siwatibau.

Category	
End Uses	Household energy, lighting, energy for small-scale enterprises, infrastructure, transport.
Energy Technology	General renewable energy
Issue	Capacity building, energy and poverty, climate change, financing access to energy
Level	Policy advice

This document contains the Pacific Regional Submission to the 9<sup>th</sup> Session of the Commission on Sustainable Development (CSD 9). The submission was compiled by the Committee of Regional Organisations of the Pacific (CROP) and contains an overview of the situation and challenges as well as strategies and recommendations on identified energy issues in the Pacific. These include: rural energy; accessibility of energy; financing of the energy sector; energy efficiency; advanced fossil and nuclear fuel technologies; renewable energy; energy-related issues in transportation; and international cooperation. In the summary of key issues, gender concerns is regarded as a key challenge requiring immediate attention alongside poverty alleviation, economic development and social development. Further, there are recommendations to consider gender and the specific concerns of women when developing renewable energy policies at the regional and international levels.

**(Source: SOPAC Secretariat – Fiji Islands)**

72. SOPAC, 2002, *Regional Energy Meeting*, July 15 – 19, 2002, Rarotonga, Cook Islands, South Pacific Applied Geoscience Commission (SOPAC), Suva, Fiji Islands.

Category	
End Uses	
Energy Technology	General renewable energy, grid electricity
Issue	Energy and poverty, planning methodology
Level	Policy advice

This document is the agreed record of the Pacific Islands Regional Energy Meeting held in the Cook Islands in July 2002. The purpose of the meeting was to assess the opportunities and challenges to the Pacific Island Countries' (PIC) energy sectors. A large part of the conference involved the reporting of regional and national energy activities since the 2000 Regional Energy Meeting. Presentations were also made by the representatives of Pacific Island Governments and regional intergovernmental agencies. The issue of women and energy was specifically highlighted in the meeting as central and vital to the energy sector. Reference was made to the 2001 Perth meeting on Gender Energy and Sustainable Development. National and regional stakeholders were urged to follow up on the outcomes of this meeting by developing a regional action plan for women and energy. The need for a regional organization to coordinate this initiative was expressed and it was recommended at the end of the conference that SOPAC undertook this.

**(Source: SOPAC Secretariat- Fiji Islands)**

73. SOPAC, 2003, *Regional Workshop on Gender, Energy and Sustainable Development*, 4 – 8 August 2003, Mocambo Hotel, Nadi. (CD-ROM).

Category	
End Uses	Household energy, lighting, energy for small-scale enterprises, transport.
Energy Technology	General renewable energy
Issue	Energy and poverty, women and technology
Level	Policy advice, networking, project/programme plan

This CD-ROM contains all documents, presentations and papers used at the Regional Workshop on Gender, Energy and Sustainable Development, 4-8 August 2003. The documents are in PDF file format and organized accordingly:

1. *General*: Agenda, participant list and the workshop report compiled by SOPAC.
2. *Policy*: Pacific Islands Energy Policy (PIEP) and gender policies of various CROP agencies.
3. *Introduction*: Keynote address and workshop overview.
4. *Gender, Energy and Sustainable Development*: Presentations on the topic and member country group discussions.
5. *PIEP*: Introduction to PIEP and role of various CROP agencies.
6. *Gender Energy Activities in the Pacific*: Member country group discussion and energy activity survey results.
7. *Patterns of Energy Use*: Topic paper, survey results and group discussions.
8. *Community participation in energy projects*: Topic papers.
9. *Gender, Children and Justice*: Topic papers.
10. *Gender, Policies and Practice in the region*: Policies and programmes in PIFS, USP and SOPAC.
11. *Gender Energy Networks*: Description of various gender and energy networks in the region.
12. *Millennium Development Goals (MDG)*: MDG Summary
13. *PIEP and Gender Development Strategies*: Member country group discussions.
14. *Funding opportunities for Gender and Energy Projects*: Group discussions.
15. *Partnership Opportunities*: Group discussions.
16. *Identifying National and Regional Priorities*: Member country group discussions.
17. *Closing*: Upcoming events and conference recommendations.
18. *Resource materials*: Topic papers.

**(Source: SOPAC Secretariat – Fiji Islands)**

74. SOPAC, 2003, "Member Country Discussions: Country Case Studies and Country Questionnaire Survey Discussion (Summary Outcome of Session 3)", *Regional Workshop on Gender, Energy and Sustainable Development*, 4 – 8 August, 2003, Mocambo Hotel, Nadi, Fiji Islands. (CD-ROM).

Category	
End Uses	Household energy
Energy Technology	Woodfuel
Issue	Energy and poverty, health impacts on women
Level	Policy advice, research

This document contains a brief description of gender and energy issues in Pacific Island Countries including Cook Islands, Federated States of Micronesia (FSM), Fiji, Kiribati, Tonga/Samoa/Tuvalu, Nauru/Niue, Marshall Islands, Solomon Islands and Vanuatu. Information included in this document is sourced from a questionnaire survey conducted in the individual countries. Factors related to gender and energy issues assessed in the survey included: decision-making; biomass issues; health issues; education opportunities/needs; community organisations/groups; training/capacity development needs; roles/job allocation; and constraints and needs. The data is presented in a reader-friendly tabular form.

**(Source: SOPAC Secretariat – Fiji Islands)**

75. SOPAC, 2003, *Report on the Regional Workshop on Gender, Energy and Sustainable Development*, Nadi, Fiji, 4 – 8 August, 2003, SOPAC Miscellaneous Report 548, Community Lifelines Programme, South Pacific Applied Geoscience Commission, Fiji Islands.



Category	
End Uses	
Energy Technology	
Issue	Energy and poverty
Level	Policy advice

This is a report of the Regional Workshop on Gender, Energy and Sustainable Development held in Fiji in August 2003. The report provides an executive summary of the whole workshop as well as the proceedings and papers presented at the meeting. The papers included in the report are: an overview of the international and regional frameworks relating to gender and energy and recommended actions to address the issue regionally, including policy and planning, networking, information dissemination, technical assistance, education, training, community participation, appropriate language, funding, reporting, organization. The main recommendation was that the PICs establish the Energy and Gender Network (PEG) for the Pacific Region. The meeting also recommended that the network be hosted by SOPAC initially. Annexed to the report are member countries working group session outputs – constraints, opportunities, country case studies, country questionnaire survey discussions and national, regional priorities and strategies.

**(Source: SOPAC Secretariat – Fiji Islands)**

76. SOPAC, 2004, *Pacific Islands Energy Policy (PIEP)*, Council of Regional Organisations In the Pacific (CROP).

Category	
End Uses	Household energy, lighting, infrastructure, transport
Energy Technology	General renewable energy, grid electricity
Issue	Capacity building, energy and poverty, planning methodology
Level	Policy advice

The *Pacific Islands Energy Policy* was developed with a vision to make available reliable, affordable and environmentally-sound energy for the sustainable development of all Pacific Island communities. It was endorsed at the 2004 Regional Energy Meeting in Madang, Papua New Guinea. The introductory section of the policy recognizes that women and youth are important, yet poorly represented, stakeholders in the energy sector and their participation is vital to achieve sustainable development. The policy is divided according to the following thematic areas: power; transport; renewable energy; petroleum; rural areas and remote islands; environment; efficiency and conservation; and human and institutional capacity. Building adequate human and institutional capacity to manage the Pacific energy sector is the overall goal of the last thematic area and emphasis on developing the capacity of women and youth in the region is specified. It proposes to do this through gender mainstreaming and raising awareness on energy-related gender issues.

**(Source: Council of regional Organisations in the Pacific)**

77. SOPAC, 2004, *SOPAC's Participation at the International Conference for Renewable Energies Bonn*, 1-4 June, SOPAC Trip Report 357, South Pacific Applied Geoscience Commission (SOPAC), Fiji Islands. And also covered in Newsletter of *Pacific Energy News* (PEN), Number 3, August 2004, p9, 12. Available at: [http://www.sopac.org/tiki/tiki-sopac\\_reportsindex.php?ss=type&vv=EN](http://www.sopac.org/tiki/tiki-sopac_reportsindex.php?ss=type&vv=EN)

Category	
End Uses	
Energy Technology	General renewable energy
Issue	Capacity Building, energy and livelihoods
Level	Policy advice, networking, project/programme plan

This report provides a brief description of the discussions and outcomes of the International Conference on Renewable Energy held in Bonn, Germany in June 2004.

As the coordinator of the Pacific Energy and Gender Network (PEG), the SOPAC representative was part of the Major Stakeholder Group dealing with *Women*. The group developed an action programme on Mainstreaming Gender Into Energy Policy and Programmes at the International, Regional, National and Local Levels. The action plan is summarized in the newsletter article. There was also a side event titled *Gender and Energy: A Key Variable in Poverty Reduction and Participatory Energy Production* in which a presentation highlighting the upcoming PEG projects was made by the SOPAC representative. Attached to this report is an annex containing the daily report of each conference day produced by the International Institute for Sustainable Development. Details of side events and other presentations are also in the annexed section.

**(Source: SOPAC Secretariat – ,Fiji Islands)**

78. SOPAC, 2004, National News, *Women Could be the Key to Reviving Fiji's Coconut Industry*, Newsletter of *Pacific Energy News* (PEN), Number 2, May 2004, pp6-7. Available at: [http://www.sopac.org/tiki/tiki-sopac\\_reportsindex.php?ss=type&vv=EN](http://www.sopac.org/tiki/tiki-sopac_reportsindex.php?ss=type&vv=EN).

Category	
End Uses	Household energy, transport
Energy Technology	Biomass conversion
Issue	Employment for women
Level	Policy advice, case study

This article summarises a presentation by the Chairman of the Coconut Industry Development Authority (CIDA) to the National Council of Women in Suva. The article discusses plans by CIDA to develop a national replanting programme and it is suggested that rural women in Fiji spearhead such an initiative. The Authority also proposes that coconut use go beyond copra production and extended to the production of bio-diesel. CIDA is targeting 100,000 households in the coconut planting areas of Fiji and there would be provisions to financially provide for a rural education programme through this initiative. Issues of land tenure, however, were brought up as a limitation particularly for Indo-Fijian women who did not share the benefits channeled to women from traditional landowner clans.

**(Source: SOPAC Secretariat – Fiji Islands)**

79. SOPAC, 2005, ENERZIA Asia Regional Focal Points and Gender and Energy Training Workshop, Chiang Mai, 2 – 8 May, SOPAC Miscellaneous Report 597, Community Lifelines Programme, South Pacific Applied Geoscience Commission, Fiji Islands. Available at: <http://www.sopac.org/data/virlib/MR/MR0597.pdf>

Category	
End Uses	
Energy Technology	
Issue	Capacity building, women's empowerment
Level	Networking, project/programme plan

This document is a report of the *ENERZIA Regional Focal Points and Gender and Energy Training Workshop* held in Thailand in May 2005. The objective of the meeting was to provide the opportunity for Asian countries to share experience and to be updated on gender and energy activities. The report presents the structure of the gender and energy network at the international, regional, national and local levels. A number of suggestions for the Pacific Energy and Gender Network (PEG) were put forward as a result of the meeting discussions. These include: the need for PEG to develop a 3 to 5 year action plan; the development of an institutional structure for PEG; identifying national and local partners within the respective member countries; securing financial assistance; and information dissemination on PEG activities. Further to this, with SOPAC

as the host organization for PEG, the meeting suggested that the host organization ensure that gender is tailored to its programmes and activities.

**(Source: SOPAC Secretariat – Fiji Islands)**

80. SOPAC, 2005, *Pacific Island Energy Strategic Action Plan (PIESAP) 2005 – 2007*, South Pacific Applied Geoscience Commission (SOPAC), Suva, Fiji Islands.

Category	
End Uses	
Energy Technology	Renewable energy, LPG, grid electricity
Issue	Capacity building, energy and poverty
Level	Policy advice, project/programme plan

This document, the Pacific Islands Energy Strategic Action Plan (PIESAP), contains strategies for implementing the Pacific Islands Energy Policy (PIEP). Consistent with the policy, the action plan is divided according to the following policy themes: power; transport; renewable energy; petroleum; rural areas and remote islands; environment; efficiency and conservation; and human and institutional capacity. The action plan for each policy theme includes information relating the activities, lead organisations, indicators, assumption/risks and time frame in tabular form. The policy and planning section addresses gender by setting out to promote the integration of the issue in the development of national energy policies and plans. This section also sets out to facilitate the involvement of women and youth in energy projects. Gender is also addressed in the section on human and institutional capacity of which four key activities include: the development of a Pacific Regional Action Plan for Women and Sustainable Energy Services; promoting training opportunities for women; promoting gender mainstreaming into national policies and strategies; and coordinating the Pacific Energy and Gender Network (PEG). This document could be useful to someone interested in incorporating gender into energy related development issues.

**(Source: SOPAC Secretariat – Fiji Islands)**

81. SOPAC, 2004, *Linking Policy and Strategy with Human Resource Development, Access to Finance and Budgets*, Joint Regional Energy Meeting and PIEPSAP Regional Planning and Consultative Meeting, 29 November – 3 December 2004, Madang, Papua New Guinea, SOPAC Miscellaneous Report 596.

Category	
End Uses	
Energy Technology	
Issue	Women’s empowerment, women and technology, capacity building
Level	Policy advice

This document provides a relatively detailed coverage of the individual interventions that were made during the Regional Energy Meeting (REM2004) that was held in Madang, Papua New Guinea from 29th November to 3rd December 2004 and where the theme was “*Linking Policy and Strategy with Human Resource Development, Access to Finance and Budgets*”.

In presenting national achievements within the energy sector, the country delegate from Fiji discussed how women had benefited from and were starting to participate in rural electrification projects. The meeting record summarises a discussion on energy and gender in the Pacific. In this discussion, the importance of women’s participation in energy projects in the Pacific was reiterated by the delegates from Fiji and Tonga while the delegate from the University of the South Pacific presented the need for more women to be involved in the science and energy courses. The meeting Communiqué is annexed to this report which states that women and youth are poorly represented in energy policy, planning and development. Also contained in the

communiqué is an endorsement to further develop the Pacific Energy and Gender Network Work Programme through national and regional initiatives.

**(Source: SOPAC Secretariat – Fiji Islands)**

82. SOPAC, 2003, *Proceedings of the Thirty-Second Session*, hosted by the Government of Niue in Alofi, Niue 19-27 September, SOPAC.

Category	
End Uses	
Energy Technology	
Issue	Energy and livelihoods
Level	Networking

This document is a summary of the proceedings of the Thirty-third Session of the South Pacific Applied Geoscience Commission (SOPAC). This document is significant to the issue of gender and energy in the Pacific because it documents the organizational endorsement that the SOPAC Secretariat hosts the Pacific Energy and Gender Network (PEG). The document also contains other potentially useful information in the annexes such as a contact list of the conference participants, statements by the various stakeholders and a list of the conference documents.

83. South Pacific Commission<sup>5</sup>, 1994, *Rethinking Sustainable Development for Pacific Women Towards the Year 2000 Environment*, Pacific Platform for Action, South Pacific Commission.

Category	
End Uses	Household energy
Energy Technology	General renewable energy
Issue	Women's empowerment
Level	Project/programme plan, research

This document discusses the issue of women and sustainable development in the Pacific region. The participation of women in development and the use of renewable energy are identified as important factors in achieving sustainable development in the Pacific. Various social and cultural factors that determine the participation of women in development is examined but falls short of linking this discussion to energy. However, education is presented as a key factor to determining women's participation in development and the limited access to energy-related studies is specifically mentioned in the article. Further, the article states that further research is required to identify factors that constrain women from participating in sustainable development particularly in the study of renewable energy.

**(Source: Fiji Department of Energy)**

84. Stephen J., 1984, *Recommendations to the PEDP on Implementing A Pacific Regional Stoves Programme*, United Nations Pacific Energy Development Programme.

Category	
End Uses	Household energy
Energy Technology	Improved stoves
Issue	Capacity building, women and technology
Level	Policy advice, project/programme plan

<sup>5</sup> Now known as Secretariat of the Pacific Community (SPC)

This publication is a documentation of the recommendations to the Pacific Energy Development Programme (PEDP) in relation to the implementation of a Pacific Regional Stoves Programme. Developed in 1982, the programme involved the installation of over 3,000 stoves in nearly 100 villages over a period of five years. The stoves cooked faster than traditional methods of cooking and at least 70 percent of the stove users from this project were women. The document states the pre-conditions for a successful stoves programme based on experience from other parts of the world. An assessment was made by two consultants on the success of the stoves programme based on this criteria. The assessments comprised of visits to Papua New Guinea, Vanuatu, Fiji and Tonga. The assessment is presented via 15 concluding points and eleven recommendations and these are outlined in the report. The general issues brought out in these findings relate to the appropriateness of the technology, national capacity, women's participation in the project, market surveys and monitoring and evaluation needs. Also included in this document is a detailed outline of a recommended regional programme, a terms of reference for a stove programme coordinator, a woodstove design, a materials testing initiative, a stove building training programme and a plan to develop manuals and promotional materials.

**(Source: Secretariat of the Pacific Community (SPC) – Fiji)**

85. Thaman, R. and Ba T., 1979, *Energy Needs and Forest Resources on Small Islands*, Paper presented on the 10<sup>th</sup> New Zealand Geography Conference.

Category	
End Uses	Household energy
Energy Technology	Forestry for fuel, woodfuel
Issue	Energy and livelihoods
Level	Case study

This paper is a presentation of fuelwood-use levels and trends in local Fijian communities. Although the article does not specifically highlight the gender impacts of the issues being studied, there is reference to energy-use pattern in cooking which is an activity largely carried out by women in the Pacific. The report highlights the high dependence on fuel-wood in the Pacific because it is easily available, free of charge and does not require special storage facilities. The article presents the results of past studies conducted in several rural villages in Fiji and Tonga showing that almost 100 percent of fuel use is derived from firewood with kerosene being used on an occasional basis. Further, most household fuel was used for cooking. The average firewood consumption per capita per year is also presented in the article, which added up to 1319 kilograms. A calculation based on this figure shows that a family of five would consume up to 6.5 tons of firewood annually. With these figures, the articles concludes that alternative energy sources will need to be explored and promoted in order to avoid a critical firewood shortage.

**(Source: Fiji Department of Energy)**

86. Tukana S. and Goodman J., 1992, *Fiji Woodstove Rural Energy (Draft Report)*, ESU Report No. 1992/96, Institute of Natural Resources, University of the South Pacific, Suva, Fiji Islands.

Category	
End Uses	Household energy
Energy Technology	Improved stoves
Issue	Energy and livelihoods
Level	Evaluation study

This publication is a report of an energy study carried out in Fiji in July 1991. The purpose of the study was to consult woodstove users on important factors to consider in the conceptual design of a suitable woodstove. The survey covered eight villages from around Fiji and was carried out by 23 students of which 13 were female. The report contains some useful data and analysis that

may be relevant to gender and energy discussions in Fiji. Raw data showing information relating to household and income size, cooking environment and facilities, food types cooked and cooking environment are provided in tables. Annex 1 lists the names of the surveyors and household questionnaire forms are contained in Annex 2.

**(Source: Fiji Department of Energy)**

87. Tukana S., 1993, *Woodstoves in Fiji: Final Report of the Fiji Woodstove Identification Project 1991 – 1992*, organized by the Fiji Woodstove Working Group, Institute of Applied Science, University of the South Pacific.

Category	
End Uses	Household energy
Energy Technology	Improved stoves, kerosene, LPG
Issue	Women and technology
Level	Policy advice, case study

This publication is a report of a rural household survey and laboratory testing of all known available woodstove models in Fiji. This initiative was undertaken by the Fiji Woodstove Working Group whose mandate was to identify appropriate woodstoves for wide-scale dissemination in Fiji. Although the survey and tests identified the most appropriate woodstove model for Fiji, its significance was reduced by findings showing that woodstoves did not necessarily reduce firewood consumption. The survey also found that the rural population did not perceive firewood supply and smoke from stoves to be problems and the reason for wanting woodstoves was to save time in the cooking process. Other significant findings from the survey were such that ethnic Fijian rural communities were the only group identified to have substantial interest in obtaining woodstoves. In addition, the increased accessibility to kerosene and LPG was reducing the demand for woodstoves. The report contains: a more detailed description of the survey approach, methods and findings; photographs of woodstoves in a number of households; tables and graphs depicting the frequency and impact of woodstoves on household cooking, household income distributions, and household fuel use and source and results of the test on the different stove types.

**(Source: Fiji Department of Energy)**

88. United Nations Pacific Energy Development Programme, 1990, *Energy, Statistics Relevant to Household and Rural Energy: Issues in the Pacific Islands*, United Nations Pacific Energy Development Programme.

Category	
End Uses	Household energy
Energy Technology	LPG, woodfuel, kerosene/paraffin
Issue	Energy and livelihoods
Level	Case study

This report summarises survey information relating to household energy consumption in selected rural and urban areas in a number of Pacific Island countries. The purpose of the survey was to support the formulation of policies and the planning of household energy infrastructure. Although the report does not provide gender disaggregated data or an analysis of different energy uses between men and women, the data presented indicates the level of various energy sources used in households. There are also linkages made between energy types and household activities that may be useful to the discussion of gender and energy in the Pacific. For example, the report states that LPG is the main source of energy used for cooking in the areas surveyed.

**(Source: Fiji Department of Energy)**

89. South Pacific Bureau of Economic Cooperation<sup>6</sup>, 1982, *Pacific Energy Report: Tonga*, South Pacific Bureau of Economic Cooperation, Australian National University, East-West Center, ESCAP, European Economic Community and UNDP. (p17, 33, 36, 37)

Category	
End Uses	Household energy
Energy Technology	LPG, general renewable energy
Issue	Capacity building
Level	Policy advice, project/programme plan

This report is an assessment of the situation and need for the development and management of energy resources in the Pacific Islands region. It is a product of collaborative work between the South Pacific Bureau of Economic Cooperation (SPEC), the Australian National University (ANU), the East-West Center (EWC), the Economic and Social Commission for Asia and the Pacific (ESCAP), the European Economic Community (EEC), the United Nations Development Programme (UNDP), and the United Nations Development Advisory Team (UNDAT). The purpose of the assessment was to formulate a regional energy programme for assistance. The report specifically looks at the energy situation and needs for Tonga which was one of the 11 Pacific Island countries visited by the regional survey mission in 1982. The 100-page report gives an overview of Tonga's patterns of energy supply, indigenous resource prospects, petroleum and fossil fuel supply and pricing, electricity, energy conservation and management and energy administration and planning. Data pertaining to the supply and consumption of different energy types by various sectors is provided in narrative and tabular form and further details on these are specified in the appendix. The report states that consultations were made with women to assess the level of biomass fuel for cooking. The report further shows that cooking uses up the highest amount of energy in the domestic sector and emphasises the urgent need for more fuel-efficient stoves in the country.

**(Source: Pacific Islands Forum Secretariat – Fiji Islands)**

90. Tuamotu J., 1989, *Survey of "JALEF" Woodstoves Navua*, Energy Studies Unit, University of the South Pacific, Suva, Fiji Islands.

Category	
End Uses	Household energy
Energy Technology	Improved stoves
Issue	Women and technology
Level	Case study

This report presents the findings of a survey carried out in the Navua area in Fiji aimed at assessing the present status of the 'JALEF' woodstoves project. The Fiji stove project was implemented by the Fiji Department of Energy in conjunction with the Centre for Appropriate Technology and Development (CATD). The survey found that only three of the 16 stoves installed in 1986 were still being used. The main contributing factor to the non-use of the stoves was material deterioration, particularly cracked fireboxes and rusted chimneys. The report contains further written details as well and pictures taken during the survey. This includes reports of the stove project in three local communities, a survey summary in tabular form, and further discussion and recommendations. Annex A provides a map of the area surveyed and Annex B lists the names of stove recipients from the three local communities.

**(Source: Secretariat of the Pacific Community (SPC) – Fiji Islands)**

91. Turpin A. and Drake R., 1991, *The Energy Situation in Fiji, Papua New Guinea, and Vanuatu*, Los Alamos National Laboratory, Los Alamos, New Mexico. (Page 9, 27).

<sup>6</sup> Now known as Pacific Islands Forum Secretariat (PIFS)

Category	
End Uses	Household energy
Energy Technology	LPG, micro-hydro resources, biogas
Issue	Energy and livelihoods, health impacts on women
Level	Policy advice

This report describes the energy supply and demand situation of three Melanesian countries, Fiji, Papua New Guinea, and Vanuatu. It identifies priorities for possible energy-related development assistance to be provided by the U.S. to these countries. The information and analysis contained in the report is based on published work and two visits to the region. The fieldwork part of the study included 50 interviews and the gathering of raw materials that include public and private reports and data sheets. The two classified primary energy sources for the three countries in this report are traditional sources (mainly firewood) and commercial sources (petroleum products, hydro resources, natural gas, coal, etc.) of which there is a heavy reliance on the former for household as well as industrial purposes. Due to large petroleum use by the mining industry, only Papua New Guinea has a traditional fuel share of less than half of all energy consumed. Each country report gives an overview of the national economic context and energy organizations. There is also a detailed account of energy sources, supply and uses supported by tables and figures. The report makes particular reference to the inefficiencies and health hazards related to cooking in open fires and states that the life expectancy of women in rural population is reduced by respiratory illnesses resulting directly from open fires. The report recommends that the U.S. undertake a wood stove technology development programme that would address health and energy conservation issues.

**(Source: Pacific Islands Forum Secretariat – Fiji Islands)**

92. UNDP/World Bank and Pacific Energy Development Programme, 1990, *Pacific Household and Rural Energy Seminar*, Port Vila, Vanuatu, November 5-9, 1990, Volume 1.

Category	
End Uses	Household energy
Energy Technology	General renewable energy, LPG, woodfuel
Issue	Women's needs
Level	Policy advice, case study

This publication contains records of the proceedings of the Pacific Household and Rural Energy Seminar held in Port Vila in November 1990. The seminar was organised by the World Bank/UNDP Energy Sector Management Assistance Programme (ESMAP) and Pacific Energy Department Programme (PEDP). The seminar was the first of its kind in the Pacific that dealt specifically with household energy issues and problems in the region. This publication is the first volume of the seminar report summarising delegates' deliberations and papers presented. A number of presentations relating to women and energy are as follows: Harold Qualau acknowledged that the limited participation of women in energy meetings was an issue given that they are often directly impacted by fuelwood scarcity and rising household energy costs. Suresh Hurry highlighted the problems and possible solutions relating to technology and energy sources for cooking. Country reports from Federated States of Micronesia (FSM), Fiji, Kiribati, Palau, Tonga and Vanuatu included discussions on the role of women in household and rural energy choices including initiatives under taken by rural women in accessing appropriate energy technologies. The document also contains other potentially useful information and statistics relating to household and rural energy needs in the individual Pacific Island countries. An overview of renewable energy resources in the Pacific Island countries is also provided. This includes data relating to the technical, financial and economic constraints affecting conservation and renewable energy options in the household and rural energy sectors.

**(Source: Pacific Islands Forum Secretariat – Fiji Islands)**



93. UNDP/World Bank and Pacific Energy Development Programme, 1990, *Pacific Household and Rural Energy Seminar*, Port Vila, Vanuatu, November 5-9, 1990, Volume 2.

Category	
End Uses	Household energy
Energy Technology	Solar energy, micro-hydro, biomass conversion, LPG, woodfuel, improved stoves
Issue	Women's empowerment
Level	Policy advice, case study

This publication is the second volume of the report on the proceedings of the Pacific Household and Rural Energy Seminar held in Port Vila in November 1990 and was organised by World Bank/UNDP Energy Sector Management Assistance Programme (ESMAP) and Pacific Energy Department Programme (PEDP). The seminar was the first of its kind in the Pacific that dealt specifically with household energy issues and problems in the region. The document contains two presentations by Pacific women on the issue of Household Energy, Women and Environment in the Pacific. Other topics discussed include: Biomass Use and Household and Rural Energy; Technologies for Household Electric Power; and Issues in Planning and Managing Household and Rural Energy. Suliana Siwatibau's presentation on "Women's Concerns and Social Efficiency in Rural and Household Policies" points out that the economic and energy indices used to assess energy efficiency for large-scale conventional energy systems are not applicable to the rural and household energy sectors. She suggests the need to incorporate "social efficiency" criteria, such as local people's behavior, status and priorities, into rural and household energy projects – particularly women who are the chief managers of households. Suggested arrangements of incorporating women's views into the various levels of decision-making on energy nationally and a list of indicators for assessing the efficiency of rural and household energy projects are outlined in this presentation. Cema Bolabola presents on the changing role of women in household energy management with a focus on improved woodstove technology. A detailed account of several community-based rural energy case studies in Fiji, Kiribati and Vanuatu is also contained in this report but the distinction on the impact of these projects on gender roles and relations is not specified.

**(Source: Pacific Islands Forum Secretariat – Fiji Islands)**

94. UNESCO/APGEN/UNDP, 2002, *Assessment of Resources, Best Practices and Gaps in Gender Science and Technology in the Asia Pacific Region*, UNESCO Office, Jakarta.

Category	
End Uses	Household energy
Energy Technology	General renewable energy
Issue	Women and technology, women's empowerment
Level	Policy advice, evaluation study

This report is an assessment of resources, best practices and gaps in gender, science and technology in the Asia-Pacific Region. The assessment includes the scanning of policies, programmes, and projects of governments, NGOs and the private sector in five areas of technology including biotechnology, green health, information technologies, renewable energies, and water and sanitation. This scanning process is crucial to providing baseline data and information on gender, science and technology opportunities and constraints, and to set the foundation for future policy and programmes for work in the area. The report includes a section on the method in which the assessment was made, a summary of the findings and analysis of the scan, a conclusion and a summary of recommendations. The findings and analysis section contains discussions on policies and governance tools, capacities for empowering women through science and technology and proposes gender, science and technology project indicators and this is supported by a number of case studies throughout the region. The assessment on renewable energy in the report highlights the importance of renewable energy technology in reducing women's workload in rural areas as well as in enabling communities to preserve their

forests and in controlling air pollution. The discussion linking renewable energy and gender is mainly drawn from the Asia region with a few case studies from Fiji described. These mainly refer to micro-hydro technologies, cooking stove programmes and solar-cooking technology. There is a table (Table 9) that shows how renewable energy projects selected by the country scanning team has empowered women. Fiji and Samoa are included in this table. There is also a CD attached to the report that contains supplementary information and photographs that were relevant to the assessment.

**(Source: UNIFEM Pacific Regional Office)**

95. United Nations Pacific Energy Development Programme, 1985, *Tongatapu Household Energy Survey*, Economic and Social Commission for Asia and the Pacific (ESCAP) and Pacific Energy Development Programme, Suva, Fiji Islands. (p7, 23, 24)

Category	
End Uses	Household energy
Energy Technology	Improved stoves, woodfuel
Issue	Health impacts on women, energy and livelihoods
Level	Case study

This is a survey report on household energy use conducted in Tongatapu in November and December 1984. The survey was led by Mrs Suliana Siwatibau, Dr Randy Thaman and Dr Chris Harwood. Nineteen Tongan students from the University of the South Pacific and the Tonga Teacher's Training College carried out the survey. The study included 329 rural households and 276 urban households using questionnaire and several quantitative measurements. The aim of the study was to estimate household energy consumption and cash expenditure on various energy sources. The survey emphasised fuelwood usage because of the widely perceived wood shortage in the area. The survey results depicted in the 30 figures and 38 tables provides details relating to household income level and energy expenditure, per capita fuel-wood use, various energy-consumption levels, household kitchen types and cooking practices, energy consuming technology, firewood collection and transportation, etc. The study highlights the heavy reliance on firewood for cooking and the need for domestic wood stoves for health and energy-efficiency reasons.

**(Source: Pacific Islands Forum Secretariat – Fiji Islands)**

96. United Nations, 1990, *Power Systems in Asia and the Pacific, With Emphasis on Rural Electrification*, United Nations, New York.

Category	
End Uses	Household energy
Energy Technology	Grid electricity
Issue	Energy and livelihoods
Level	Policy advice, research

This publication is a documentation of the proceedings and papers presented at three ESCAP meetings focusing on various aspects of rural electrification in the Asian and Pacific region. The first and third meetings addressed the socio-economic impact of rural electrification in the Asia-Pacific region while the second meeting discussed energy conservation and optimization of power systems. The book contains a total of 42 papers of which nine are focused specifically on the Pacific region. These papers cover a wide range of topics related to rural electrification including policy and planning issues, local participation, community energy projects and household energy use patterns. There is a wide range of data available in the book relating to these issues but these are not disaggregated into gender categories. However, there are three papers contained in the book that may be of relevance to Pacific gender and energy discussions. Fernando's paper on the *Pacific Experience in Rural Electrification* points out that the selected end-use for rural

electrification needs to be reflective of the priorities and preferences of the local communities. Identifying the target end-use group and incorporating their views and interests into the decision-making process is important to bringing this about. Fernando's study found that women and children are the main potential users of electrification quality-of-life projects while men are the main potential beneficiaries of income-producing rural electrification projects. Hermann's paper on *Rural Electrification Issues in Pacific Island Countries* further emphasizes this point by stating that a fundamental problem with rural electrification projects in the Pacific is that it does not clearly differentiate between economic issues and socio-political ones and the type of consumer to be covered by the project. Harwood's paper presents findings from household energy surveys conducted in South Tarawa (Kiribati), Tongatapu (Tonga), Nadi/Lautoka (Fiji), Suva (Fiji) and Honiara (Solomon Islands). The paper contains a wide range of data relating to energy-use patterns in these areas but these are not disaggregated according to gender.

**(Source: Pacific Islands Forum Secretariat – Fiji Islands)**

97. UNIFEM, 1994, *Women and Sustainable Development: A Report of the NGO Consultative Meeting on Gender and Sustainable Development of Small Island States*, 7 – 11 February, United Nations Development Fund for Women (UNIFEM) Pacific Office.

Category	
End Uses	Household energy
Energy Technology	
Issue	Women's needs
Level	Policy advice

This publication is a report of the outcomes of the NGO Consultative Meeting on Gender and Sustainable Development of Small Island States in Suva from 7 to 11 February 1994. The aim of the meeting was to address gender priority issues relevant to the development of each Small Island State for the purpose of enhancing gender-responsiveness of the draft Programme of Action for the Sustainable Development of Small Island States. Among other things, the publication provides an analysis of the gender issues in the Draft Programme of Action and Critical issues on gender and sustainable development in Small Island Developing States. One of the key points made in this report was that women were the major providers and consumers of energy at the subsistence level.

**(Source: UNIFEM Pacific Regional Office)**

98. UNIFEM, 1994, *Draft Programme of Action for the Sustainable Development of Small Island Developing States with Suggested Amendments to Include Gender Priority Issues*, February, United Nations Development Fund for Women (UNIFEM) Pacific Office.

Category	
End Uses	Household energy
Energy Technology	
Issue	Women and technology, women's empowerment, quality of life
Level	Policy advice

This document contains the Draft Programme of Action for the Sustainable Development of Small Island States with suggested amendments to include gender priority issues. The proposed amendments were compiled and adopted at the NGO Consultative Meeting on Gender and Sustainable Development of Small Island States, in Suva, 7 – 11 February 1994. This meeting was part of the UNDP/AIDAB/UNIFEM Pacific Mainstreaming Project. In general, the amendments emphasized on enhancing women's participation in environmental decision making, highlight the reliance of women on natural resources for the semi-subsistence lifestyles and addressing the gender implications of development. In particular, the amendments proposed in Parts VII and XIII address key issues on gender and energy in the Pacific. In addressing the issues of *Energy Resources* in Part VII the need to provide cheap and accessible energy sources

at the subsistence level was proposed as women were the major providers of energy in this context. Part XII, the *Science and Technology* section, proposes that science and technology policy responds to the sustainable development of men and women in the sectoral and local levels and that females have equal access and participation in science and technology streams in formal and non-formal educational institutions. This document could be useful to someone interested in incorporating gender into energy related development issues.

**(Source: UNIFEM Pacific Regional Office)**

99. University of the South Pacific, 1997, *Islands in the Pacific Century*, Abstracts of the Pacific Science Inter Congress, 13-19 July, University of the South Pacific, Suva, Fiji Islands.

Category	
End Uses	Household Energy
Energy Technology	Woodfuel
Issue	Women's empowerment
Level	Policy advice

This publication is a compilation of the abstracts of paper presented at the Eighth Pacific Science Inter-Congress called *Islands in the Pacific Century* held from 13 to 19 July 1997 at the University of the South Pacific, Fiji. The abstracts are categorized according to 20 plenary sessions and 3 symposia that were based on various themes including environment, health, natural resource management, technology, politics, social development and transport and communications. One symposium focused particularly on Women, Science and Development. The plenary section on *Energy* contained 17 abstracts in which one paper makes reference to women in relation to the use of biomass fuels for cooking. The *Women, Science and Development* symposium contained 11 abstracts, which discussed issues such as the impact of science on women and participatory methods as a means of empowerment. An index of authors is presented at the end of the book.

**(Source: Secretariat of the Pacific Community – Fiji Islands)**

100. Wade H., Lambert Y. and Ferguson M., 2002, *Review of PREFACE: Final Report*, Secretariat of the Pacific Community.

Category	
End Uses	Household energy, lighting
Energy Technology	Solar energy, general renewable energy
Issue	Energy and livelihood, quality of life, reducing workload
Level	Policy advice, evaluation study

This publication is a review of a A\$3.45 million project funded by Australia and France aimed at bringing about social and economic development through the use of sustainable renewable energy technologies in the Pacific region. Part of this aim was to increase the utilization of sustainable renewable energy technologies, in particular solar photovoltaic and wind energy technologies, in island and rural communities. The review includes a description of the four project framework, constraints and PREFACE activities in four Pacific island countries: Vanuatu, Tonga, Marshall Islands and Cook Islands. The impact and relevance of the project in the local context is also examined in this report with thematic discussions on social community analysis, training and communication needs, financial analysis, economic analysis, technical issues and institutional collaboration. A gender analysis of the project is contained in the section focusing on social community analysis. While the report states that it is not yet possible to assess the impact of the project on women, anecdotal evidence of minor positive impacts is mentioned such as the reduction in time required to do night-time household work as a result of better lighting. The report also states that there is no indication that the project has or will have an impact on gender relations. Verbal resistance to females occupying traditional male roles in the Marshall Islands is

minimal and, as such, the inclusion of women in administration of the project has not necessarily created a new role model. Further, the inclusion of women in the management of the project is consistent and reinforces Tonga's national policy commitment to increasing women's participation in community-based organizations by 40 per cent. The annex section of the publication contains more specific and detailed information such as the contacts of people interviewed during the review, individual country field visit reports, original project logical framework and budgets, methodological review, bibliography and photographs.

**(Source: Pacific Islands Forum Secretariat – Fiji Islands)**

101. Waddell R., 1993, *Replanting the Banana Tree: A Study in Ecologically Sustainable Development*, APACE, University of Technology, Sydney, Australia.

Category	
End Uses	Household energy, lighting
Energy Technology	Micro-hydro
Issue	Women's empowerment, women's needs
Level	Case study, project/programme plan

In this book, Robert Waddell, the founder of APACE (Appropriate Technology for Community and Environment), argues the need to incorporate ecological reality, justice and equity into traditional economic development thinking. As a political economist, development educationist and appropriate technologist, Waddell outlines a strategy for equitable and ecologically-sustainable development. He gives an overview of the trends followed by the colonial economy and its effects on the indigenous way of life and backs this discussion by presenting a case study on Iriri, a village in the western area of the Solomon Islands. The impact of such development on gender relations is also examined. A section in the book discusses the effect of conventional development approaches and plans on local women. Waddell exemplifies this by describing the design and establishment of a new energy technology project in Iriri village bringing to light the preference and priorities of the local women which contradicted the views of an overseas-based development agency with a gender-sensitive agenda.

**(Source: SOPAC Secretariat –Fiji Islands)**

102. Waddell R., Date unavailable, *Producing Power at the Local Level*, APACE, Broadway, Sydney, Australia. Available at: <http://www.apace.uts.au/docpublish/sircec.html>

Category	
End Uses	Household Energy, infrastructure
Energy Technology	Micro-hydro
Issue	Energy and poverty, quality of life, women's empowerment
Level	Policy advice, case study

Waddell begins this article by giving a general overview and makes a critical assessment of current development approaches and practices. He argues for the need to take on an alternative development path that empowers developing countries to take full control of their destiny as opposed to the current political reality whereby development is dictated mainly by developed countries, international corporations, national and international aid agencies and banks. The alternative development approach Waddell proposes is one that is participatory and responsive to ecological and social needs. A community-based micro-hydro project in Iriri village, Solomon Islands is presented as case study demonstrating the effectiveness of such an approach. In particular, the process in which the project has empowered the local women and enhanced their quality of life through the introduction of new technology is discussed in this article to emphasise the appropriateness of such a development approach.

**(Source: APACE Website)**

103. Wardrop N., 1980, *Working Group Meeting on Energy in the South Pacific*, Country Paper for Kiribati, 17-23 June.

Category	
End Uses	Household energy
Energy Technology	General renewable energy, energy and livelihoods
Issue	Reducing workload
Level	Evaluation study

This article is a country paper on energy in Kiribati presented at the *Working Group Meeting on Energy in the South Pacific* held in June 1980. The major energy issue highlighted in this paper is that Kiribati has a very limited source of indigenous energy. This is because it is a flat atoll island with no rivers to cater for hydropower projects. However, at the household level, solar has become a major source of energy that is steadily abundant and particularly beneficial to women. Solar energy is extensively used for fish and crop drying and, to a small extent, for water heating and communication purposes. The introduction of solar energy technology is stated to have particularly benefited women as it has replaced smoke emitting wood stoves that negatively impact upon women's health. Other benefits of solar energy are that it has reduced the dependency on wood and fossil fuels. This is because the limited wood supply is also principally used for the construction of houses and canoes and fossil fuel requires purchase by cash.

**(Source: Fiji Department of Energy)**

104. World Bank, 1992, *Cook Islands: Issues and Options in the Energy Sector*, UNDP/ESCAP, Pacific Energy Development Programme, The Asian Development Bank and The Forum Secretariat Energy Division. (p12)

Category	
End Uses	Infrastructure, household energy
Energy Technology	LPG, general renewable energy
Issue	Capacity building
Level	Policy and planning

This report discusses the issues and options of the energy sector in the Cook Islands. It examines the national economic and institutional context relating to energy, energy consumption and supply patterns, energy policy issues and priorities and investment and technical assistance priorities. Reference is made to biomass and household energy consumption in this report and this is supported by tabulated data.

**(Source: Pacific Islands Forum Secretariat – Fiji Islands)**

105. World Bank, 1992, *Pacific Regional Energy Assessment: Overview Report*, World Bank, UNDP/ESCAP, Pacific Energy Development Programme, ADB and Forum Secretariat (p 20-21 and 61-62).

Category	
End Uses	Household energy
Energy Technology	Solar energy, micro-hydro, woodfuel, LPG sources
Issue	Energy and livelihoods
Level	Policy advice

This report assesses the issues and policy options related to energy development in twelve Pacific island countries including: Cook Islands, Fiji, Federated States of Micronesia, Kiribati, Marshall Islands, Palau, Papua New Guinea, Solomon Islands, Tonga, Tuvalu, Vanuatu and Samoa. The four key findings of the report include limitations in new technological options, continued reliance on petroleum imports and biomass, inadequate performance of power utilities

and the ineffective management of the energy sector by the state. The report describes issues relating to the consumption of various energy sources such as solar, hydro, biomass and petroleum. Included in this discussion is the significant domestic consumption of biomass fuel for household cooking. This trend is reported to have increased the practice of fuelwood cutting. This has resulted in local shortage of fuelwood in high population density areas in Solomon Islands, Kiribati, Samoa, Cook Islands, Fiji, Papua New Guinea and Tonga). In an effort to reduce the demand for fuelwood, the governments of Tuvalu, Fiji, Solomon Islands and Papua New Guinea distributed energy-saving stoves in the mid 1980s. By 1990, most of these initiatives failed due to high unit costs and difficulties in providing maintenance. However, stove programmes aimed at institutions such as rural schools worked reasonably well. The report states the need for energy-related policy measures that will address the rate in which forest areas are cleared.

**(Source: Pacific Islands Forum Secretariat – Fiji Islands)**

106. World Bank, 1992, *Tonga: Issues and Options in the Energy Sector*, UNDP/ESCAP, Pacific Energy Development Programme, The Asian Development Bank and The Forum Secretariat Energy Division. (p11, 12)

Category	
End Uses	Infrastructure, household energy
Energy Technology	LPG, general renewable energy
Issue	Capacity building
Level	Policy advice

This report discusses the issues and options of the energy sector in Tonga. It examines the national economic and institutional context relating to energy, energy consumption and supply patterns, energy policy issues and priorities and investment and technical assistance priorities. Reference is made to biomass and household energy consumption of biomass fuels and this supported by tabulated data.

**(Source: Pacific Islands Forum Secretariat – Fiji Islands)**

## Part 2

### Programmes and Projects in the Pacific

107. APACE

<http://www.apace.uts.edu.au/docpublish/western.html>

<i>Title of Project</i>	Western Province Regional Renewable Energy Programme
<i>Project Duration</i>	1995 – (1998) ongoing
<i>Partners</i>	APACE and Province of the Solomon Islands
<i>Main Focus/Themes</i>	Sustainable Energy and Women
<i>Geographic Coverage</i>	Solomon Islands

#### Project Summary

This programme is a resource assessment exercise of over 100 villages in the Western Province of the Solomon Islands. The assessment will be used to develop a coordinated approach to renewable energy development in the region. This includes the design of a sustainable energy management structure, particularly at the local level. The purpose of this programme is to ensure that there is a sense of community ownership over the implementation of the regional renewable energy infrastructure. The programme has a three-year duration and is supported by AusAID, APACE, rural communities, the Western Province Legislative Assembly, Solomon Islands Ministry of Public Works, Ministry of Education and the Ministry of Local Government.

**(Source: APACE Website)**

108. APACE

<http://www.apace.uts.edu.au/docpublish/agaun.html>

<i>Title of Project</i>	Agaun Micro-hydro: Papua New Guinea
<i>Project Duration</i>	1993 – (1996) ongoing
<i>Partners</i>	APACE and Province of the Solomon Islands
<i>Main Focus/Themes</i>	Rural energy services and poverty eradication
<i>Geographic Coverage</i>	Papua New Guinea

#### Project Summary

The Agaun Micro-hydro project in Papua New Guinea involved the development of a power system that was used and fully operated and maintained by the remote Agaun community. The community also sells excess power to a nearby Government station. The project was made possible through collaborative work between APACE members and donors, the Canada Fund, the Australian NGO cooperation scheme, the Milne Bay Province and Masurina Limited. The hydroelectric system was designed by APACE and two village members are employed to manage the technology. The APACE website provides a more detailed description on the technical aspects of the installed technology.

**(Source: APACE Website)**

109. APACE

<http://www.apace.uts.edu.au/docpublish/vavanga.html>



<i>Title of Project</i>	Vavanga Micro-hydro: Solomon Islands
<i>Project Duration</i>	1993 – now entering second phase
<i>Partners</i>	APACE, AusAID and local community committee
<i>Main Focus/Themes</i>	Rural energy and poverty eradication
<i>Geographic Coverage</i>	Solomon Islands

### **Project Summary**

The Vavanga micro-hydro project in the Solomon Islands, commissioned in 1993, is a community-based initiative that has directly connected 22 houses, 14 kitchens, 2 church buildings, and a bakery to an electricity supply. The project was financially supported by AusAID, APACE and local community committees. The project is now entering the second phase of its development plan which involves the implementation of income generating activities such as a carpentry workshop, a conference/workshop centre and a lighted sports field. Direct beneficiaries of the project include the 300 residents of Vavanga and Bereke of whom household lighting and power outlets are now available. These benefits include easier cooking practices, provision of better educational environment in the home for children, ability for women's groups to meet and engage in craft work in the evenings and access to national news and service bulletins on radio receivers. Further, a PhD study (ANU, 1999) noted that the average Vavanga family income increased by over 40 percent since the introduction of electricity to the community. The children of Vavanga have also benefited from the establishment of pre-school and kindergarten facilities and teachers are encouraged to reside locally due to electricity availability in the area. Both male and female youth sporting groups have also benefited from the construction of the lighted sports field and have both won regional tournaments. Economic enterprises have been slow to occur, due to the limited power available. A locally initiated major upgrade of the power system commenced in 2003 to address this problem. The website contains a more detailed list of village developments since the electricity supply was connected.

**(Source: APACE Website)**

110. APACE

<http://www.apace.uts.edu.au/docpublish/ghatere.html>

<i>Title of Project</i>	Ghatere Micro-hydro: Solomon Islands
<i>Project Duration</i>	1993 – (1998) ongoing
<i>Partners</i>	APACE, AusAID, Adventist Development Relief and local community
<i>Main Focus/Themes</i>	Rural Energy and poverty alleviation
<i>Geographic Coverage</i>	Solomon Islands

### **Project Summary**

This project comprises a micro-hydroelectric system designed for village operation, ownership and self-maintenance by the people of Ghatere Village. APACE worked with community members to implement the project after persistent requests from the Ghatere villagers. Funds for the project was gathered by APACE and the local community, the Australian Government and the Adventist Development Relief Agency provided financial assistance. An APACE volunteer was the project manager and the Ghatere Community provided local management through their elected hydro committee. The Ghatere hydro system diverts some of the Ghatere River flow; sampling between approximately 100 – 300 litres per second depending on the season and village electricity

demand. Through this project, 38 houses, 32 kitchens, a church, school and clinic are now connected to an electrical circuit. Approximately 500 Ghatere village members, school children from several nearby villages and fishermen from the surrounding villages directly benefit from this project.

**(Source: APACE Website)**

111. APACE

<http://www.apace.uts.edu.au/docpublish/manawai.html>

<i>Title of Project</i>	Manawai Community Hydro
<i>Project Duration</i>	1994 – ongoing
<i>Partners</i>	APACE, Manawai Harbour, Rokohara Farmers Association, EZE (German group)
<i>Main Focus/Themes</i>	Rural energy, improved livelihood, women and health
<i>Geographic Coverage</i>	Solomon Islands

### **Project Summary**

This project comprises of a mini-hydroelectricity power system and electrical mini-grid distribution system for a large and remote community, Manawai, in Malaita Island. The project was officially opened in 1998 and implemented by APACE in partnership with the Manawai Harbour village community, the Rokahara Farmers Association (as local institutional partner) and a German group EZE (as donor). The project involved the installation of electricity in 150 dwellings, the Provincial Health Clinic, five classrooms and teacher’s houses with a separate provision for a fishery cooler. As the first large-scale economic application of the renewable energy, the Manawai community is currently developing a rice-processing industry. The project provides the integrated design, procurement, implementation, training (on-site and off-site), documentation and evaluation for a hydroelectric system and community structure suitable for sustained local use and further application of a Manawai community development programme. The benefits of the project extends beyond the Manawai population as the regional area served by the Manawai clinic, possibly numbering 2,000 people, have gained from better facilities for baby deliveries, malarial diagnosis and basic injury treatment. An even greater spread of coverage applies to the Manawai Primary and Secondary School, which now enjoys better facilities and ensuring a more reliable presence of teachers.

**(Source: APACE Website)**

112. APACE

<http://www.apace.uts.edu.au/docpublish/raeao.html>

<i>Title of Project</i>	Raeao Community Hydro Electric Project
<i>Project Duration</i>	2001 – ongoing
<i>Partners</i>	International Greenhouse Partnerships (IGP)
<i>Main Focus/Themes</i>	Climate change, carbon credit, rural energy
<i>Geographic Coverage</i>	Solomon Islands

### **Project Summary**

This energy project includes a micro-hydroelectricity power system and electrical mini-grid distribution system for a large remote community in Malaita Island in the Solomon Islands. The

project is part of the International Greenhouse Partnerships (IGP) programme that addresses global climate change and greenhouse gas concerns while enabling sustainable community development. Two villages are being electrified with micro-hydroelectricity in this programme and their experience will contribute to intergovernmental discussions and agreements on the Kyoto Protocol and Carbon Credit mechanisms. Since electricity was installed, income-generating activities have been enhanced such as copra milling and sewing. Other benefits such as improved lighting on the street, kitchens, churches and clinics have also been reported. The webpage contains technical details and status of the technology. This includes technology skills training provided to the community of which three, specifically targeted local women. These were held in 1997 and in August 2004.

**(Source: APACE Website)**

113. APACE

<http://www.apace.uts.edu.au/docpublish/nariaodetails.html>

<i>Title of Project</i>	Nariaoa Community Hydro Electric Project
<i>Project Duration</i>	2002 – ongoing
<i>Partners</i>	APACE and local community
<i>Main Focus/Themes</i>	Women and technology, rural energy, capacity building
<i>Geographic Coverage</i>	Solomon Islands

### **Project Summary**

The Nariaoa Community Hydroelectric project in the Solomon Islands began in 2002 and the installation of the power plant was completed in February 2004. The project also includes a capacity building component in technology skills training is provided to the community of which three training workshops specifically targeted local women. These were held in 1997, late 2004 and early 2005. Tasks yet to be completed include further technical training, and the development of an operational manual before the system is 'handed over' for full community ownership and responsibility. At present the system is in a 'trial' period, although there have been (to November 2004) no technical hitches.

**(Source: APACE Website)**

114. Fiji Department for Energy

[www.fdoe.gov.fj](http://www.fdoe.gov.fj)

<i>Title of Project</i>	Solar Refrigeration Project
<i>Project Duration</i>	2004 – ongoing
<i>Partners</i>	Fiji Department of Energy and local community
<i>Main Focus/Themes</i>	Women's economic empowerment
<i>Geographic Coverage</i>	Fiji

### **Project Summary**

This project provides solar refrigeration for a women's small-scale enterprise in Driti village, Fiji. The enterprise is a fisheries aquaculture project comprising 6 freshwater ponds, which commenced in 2003. A year later a solar refrigeration system was installed by the Fiji Department of Energy in response to the need for better fish storage. The residents of Driti Village have formed a women's committee that is responsible for paying a monthly maintenance and operational fee of FJD30, establish a bank account for depositing the money, and the established committee is responsible for managing the project. The women of the village are the project

managers and a village elder provides technical assistance and advice. The Fiji Department of Energy is responsible for installation, maintenance and repairs for the project.

**(Source: Fiji Department of Energy)**

115. Fiji, Department of Energy  
www.fdoe.gov.fj

<i>Title of Project</i>	Waidalice Biogas Project
<i>Project Duration</i>	2000 – 2005
<i>Partners</i>	Fiji Department of Energy
<i>Main Focus/Themes</i>	Reducing rural women's work load
<i>Geographic Coverage</i>	Tailevu, Fiji

### **Project Summary**

This project is an ongoing small-scale biogas energy project in the rural settlement in Fiji. The project includes the use of livestock waste to generate methane gas. The energy generated from this source has been used mainly for cooking meals. As a result of the project the women of the household spend less time collecting firewood.

**(Source: Fiji Department of Energy)**

116. SOPAC Secretariat

<i>Title of Project</i>	Pacific Islands Energy Policies and Strategic Action Planning (PIEPSAP) Project
<i>Project Duration</i>	2004 – 2007
<i>Partners</i>	Danish Government, UNDP, South Pacific Applied Geoscience Commission (SOPAC), European Union Energy initiative
<i>Main Focus/Themes</i>	Energy policies, sustainable development
<i>Geographic Coverage</i>	Global

### **Project Summary**

PIEPSAP project is an outcome of the World Summit on Sustainable Development that was held in Johannesburg in 2000 where two initiatives were launched: The PICs regional energy sector umbrella initiative, Pacific Islands Energy for Sustainable Development (PIESD) and the European Union Energy Initiative for Poverty Eradication for Sustainable Development (EUEI). In 2003 the Danish Government agreed to fund the PIEPSAP project under the EU Energy Initiative

The project aims to improve the capacity of Pacific Island Countries (PICs) to develop practical national energy policies, and a strategic action plan to implement the policies. The document is divided into six parts. The first part is a summary of the following: the problem to be addressed and the relevant outcomes agreed by the PICs; the institutional and policy framework; intended beneficiaries; and lessons and findings from the experiences, reviews and evaluations of past relevant regional initiatives in the Pacific. The second part outlines the strategy for achieving the desired outcomes of the project. Poverty, equity and gender are addressed in this part as a means of bringing about sustainable development. The Pacific Energy and Gender Network (PEG) is specifically referred to as partner in delivering rural energy for low-income people and in considering practical approaches to energy and gender issues within the PICs. The third part describes the desired overall PIESAP outcome, the success and related activities and inputs. The fourth part explains the management arrangement at the regional and national levels. The fifth and sixth parts address the legal context and budgetary issues respectively. The annexes comprise over half of the whole document of which are listed A to I as follows: Acronyms and Abbreviations; Status of National Energy Policies and Plans within PICs; Project Justification; Review of Past, Current and Planned Regional Energy Initiatives in the Pacific Islands; Issues

and Lessons Regarding Past Energy Planning and Efforts in the Pacific; Overview of the Pacific Islands Energy Policy and Plan; Job Descriptions and Terms of Reference; and Inception Report. **(Source: SOPAC Secretariat – Fiji Islands)**

117. SOPAC Secretariat

<i>Title of Project</i>	Support to Pacific Energy and Gender Network (PEG) to Increasing Awareness on Gender issues in the Energy Sector in the Pacific ACP Region
<i>Project Duration</i>	2004 – 2005
<i>Partners</i>	Technical Centre for Agriculture and Rural Co-operation (CTA), and South Pacific Applied Geoscience Commission, and Pacific Energy and Gender Network (PEG)
<i>Main Focus/Themes</i>	Awareness building on Gender and energy
<i>Geographic Coverage</i>	Pacific ACP Region

**Project Summary**

The overall goal of this project is to raise awareness on gender issues in the energy sector through the delivery of the following outputs: (i) distribution of information material around the region; (ii) featuring gender and energy articles in the Pacific Energy Newsletter (PEN); (iii) development of a Pacific Energy and Gender Network (PEG) website and interactive contact database; and (iv) documentation and sharing of successful experiences, case studies that promote community participation in energy projects. The countries covered under CTA included all 14 Pacific Island Countries and East Timor and SOPAC (current PEG network host) is the implementing agency. The document states that the project would be linked with other established gender related initiatives including ECOWOMAN<sup>7</sup>, Asian Pacific Gender Science and Technology Project (APGEST)<sup>7</sup>, APACE Village First Electrification Group (APACE VFEG and Melanesian Islands Village Electrification Group (MIVEG).

**(Source: SOPAC Secretariat – Fiji Islands)**

118. SOPAC Secretariat

<http://www.sopac.org/tiki/tiki-index.php?page=PEG+Awareness+Raising+Materials>

<i>Title of Project</i>	Development of Content of Awareness Raising Materials
<i>Project Duration</i>	2004 – 2005
<i>Partners</i>	Technical Centre for Agriculture and Rural Co-operation (CTA), and South Pacific Applied Geoscience Commission, and Pacific Energy and Gender Network (PEG)
<i>Main Focus/Themes</i>	Gender and energy
<i>Geographic Coverage</i>	Pacific ACP Region

**Project Summary**

This project is a Pacific Energy and Gender Network (PEG) initiative. The overall goal of this project is to increase the awareness on gender issues in the energy sector by developing and distributing information materials in the region. The activity within this objective is the development of 2500 flyers and 500 posters in English and selected local languages like Fijian and Hindi. SOPAC is responsible for the implementation of the project and expected activities include research on the gender and energy issue in the region and the compilation, design, translation and distribution of the materials. The flyers and posters are expected to be distributed in the Pacific Region by September 2005.

**(Source: SOPAC Secretariat – Fiji Islands)**

<sup>7</sup> ECOWOMAN and APGEST dormant at the time of writing.

119. SOPAC Secretariat

<http://www.sopac.org/tiki/tiki-index.php?page=PEG+Activities>

<i>Title of Project</i>	Development of Rural Radio Programmes
<i>Project Duration</i>	2004 – 2005
<i>Partners</i>	Technical Centre for Agriculture and Rural Co-operation (CTA), and South Pacific Applied Geoscience Commission, and Pacific Energy and Gender Network (PEG)
<i>Main Focus/Themes</i>	Gender and energy
<i>Geographic Coverage</i>	Pacific ACP Region

### **Project Summary**

This project is a Pacific Energy and Gender Network (PEG) initiative. The overall goal of this project is to increase the awareness on gender issues in the energy sector by developing and distributing information materials in the region. The activity within this objective is the development of rural radio programmes in 6 Pacific Island Countries. SOPAC is responsible for the implementation of the project and expected activities include identifying the target audience, developing the script, translation of script and the production of the radio programme in English and 7 local languages; as well as the production of CD covers for the programme. SOPAC through the consultant is also expected to work with the Pacific Islands News Association (PINA), Fiji Broadcasting Corporation (FBC) and other broadcasting agencies on this initiative. The radio programmes are expected to be distributed in the Pacific Region by September 2005.

**(Source: SOPAC Secretariat – Fiji Islands)**

120. SOPAC Secretariat

<http://www.sopac.org/tiki/tiki-index.php?page=PEG+Activities>

<i>Title of Project</i>	Video Production on Gender and Energy in the Pacific
<i>Project Duration</i>	2004 – 2005
<i>Partners</i>	Technical Centre for Agriculture and Rural Co-operation (CTA), and South Pacific Applied Geoscience Commission, and Pacific Energy and Gender Network (PEG)
<i>Main Focus/Themes</i>	Gender and energy
<i>Geographic Coverage</i>	Pacific ACP Region

This project is a Pacific Energy and Gender Network (PEG) initiative. The overall goal of this project is to increase the awareness on gender issues in the energy sector by developing and distributing information materials in the region. The activity within this objective is the development of a 30-minute video (100 DVD and 400VCD copies) on gender and energy in the Pacific. SOPAC is responsible for the implementation of the project and expected activities include determining the content of the video, developing the video script, production of the video and the design and production of the DVD and VCD covers. The video is expected to be distributed in the Pacific Region by September 2005.

**(Source: SOPAC Secretariat – Fiji Islands)**

121. SOPAC Secretariat

<http://www.sopac.org/tiki/tiki-index.php?page=About+PEG>

<http://www.sopac.org/tiki/tiki-index.php?page=PEG+Database>

<i>Title of Project</i>	Development of Pacific Energy and Gender and Network (PEG) website and Online Contact Database
<i>Project Duration</i>	2004 – 2005
<i>Partners</i>	Technical Centre for Agriculture and Rural Co-operation (CTA),

	and South Pacific Applied Geoscience Commission, and Pacific Energy and Gender Network (PEG)
<i>Main Focus/Themes</i>	Gender and energy
<i>Geographic Coverage</i>	Pacific ACP Region

This project is a Pacific Energy and Gender Network (PEG) initiative. The overall goal of this project is to increase the awareness on gender issues in the energy sector by developing and distributing information materials in the region. The activity within this objective is the development of (a) website content by a professional researcher who will also seek information on-line relevant to the thematic regional and global information sources, and (b) the website interface including an on-line interactive contact database. This website will also be incorporated into the existing SOPAC website. The content of the site updates will be based on the inputs from members of the network. SOPAC is responsible for the implementation of the project.

**(Source: SOPAC Secretariat – Fiji Islands)**

## 122. United Nations Development Programme (UNDP)

<i>Title of Project</i>	<i>Regional Energy Programme for Poverty Reduction (REP-POR)</i>
<i>Project Duration</i>	2005 – 2007
<i>Partners</i>	UNDP Samoa, UNDP Bangkok
<i>Main Focus/Themes</i>	Energy and Poverty
<i>Geographic Coverage</i>	Asia and Pacific Region

The project is based on the notion that poverty cannot be addressed unless sufficient attention is placed on the crucial role energy services play in the environmental, social and economic wellbeing of the poor. Hence, the project aims to make energy accessible, affordable and reliable to reduce poverty. A key component of the programme is the development of a Regional Human Development Report (RHDR) on Energy and Poverty to be used as a policy advocacy tool. The project document states that the overall programme will also facilitate greater involvement of women in the management of energy systems. The programme description is divided into seven parts, which include the following: situation analysis; strategy; project results and resource framework; management arrangement; legal context; work plan; and budget. The need to better understand the poverty-energy-gender nexus is particularly emphasized in the situation analysis and reducing the gender gaps in energy services is a key strategy of the (REP-POR) programme.

**(Source: UNDP Samoa, SOPAC Secretariat – Fiji Islands)**

## Appendix 1: Key words for gender and energy bibliography (updated version)

End Uses	Household Energy
	Lighting (and its effects on women's lives and work)
	Energy for small-scale enterprises
	Infrastructure (mills, pumps, platforms)
	Transport
Energy Technology	Improved stoves
	Biogas
	Micro hydro
	Biomass conversion
	Paraffin/ Kerosene
	Grid electricity
	LPG (Liquid Petroleum Gas)
	Decentralised electricity
	General renewable energy
	Non-forest biomass production
	Solar energy
	Forestry for fuel, woodfuel
	Issues
Health impacts on women	
Planning methodology	
Climate change	
Energy and poverty	
Capacity building	
Energy and livelihoods	
Women's empowerment	
Reducing workload	
Women and technology	
Financing access to energy	
Quality of life	
Women's needs	
Level	
	Case study
	Evaluation study
	Research
	Networking
	North-South relations
	Project/programme plan





