WOOD ENERGY NEWS

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Regional Wood Energy Development Programme in Asia (GCP/RAS/154/NET)

Wood Energy Information

Contents

Colophon

Programme Information

The Regional Wood Energy Development Programme in Asia (RWEDP) aims to assist 16 developing countries in establishing and strengthening their capabilities to assess wood energy situations, plan wood energy development strategies and implement wood energy supply and utilization programmes. The programme promotes the integration of wood energy in the planning and implementation of national energy and forestry programmes.

Wood Energy News

The programme's newsletter, *Wood Energy News*, which is published on a regular basis, addresses a wide variety of wood energy issues, such as woodfuel resources, woodfuel flows, wood energy planning and policies and wood energy technologies. Its purpose is to share information on wood energy with its subscribers. Suggestions, reactions or contributions are more than welcome, and don't forget to share your own experiences.

Those wishing to obtain *Wood Energy News* can write to the RWEDP secretariat at:

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Publications

The designations employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of the Food and Agriculture Organization of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

The opinions expressed in this publication are those of the authors alone and do not imply any opinion whatsoever on the part of the FAO.

EDITORIAL

It is commonplace to state that *data* on wood energy in Asia is scarce, incomplete, inconsistent, incorrect, or unreliable, and that more and better data would be welcome. At the same time it can be maintained that *information* about wood energy in Asia is abundant, substantial, consistent, fairly reliable, and comprehensive, though not always welcome. Probably, there is more information available than people can digest.

Providing information on wood energy is amongst the stated objectives of RWEDP and is a serious challenge. But presenting the information in an easily digestable way is even more of a challenge . Summaries, overviews and references may help, but equally important are the quality of presentation, the layout and the language and style used. RWEDP is constantly trying to improve its performance in these matters.

What is the role of information? What might it be? Let's not be over-optimistic, at least in the short run. It has happened that RWEDP has published information on wood energy consumption which was substantiated by clear data from validated references, which apparently was not welcomed by everybody. One reader complained, stating that the data could not be correct, because it conflicted with his views. How many other readers have not complained but think the same? In the longer run, we believe in the positive role of information. Misconceptions have to be addressed in order to allow for sound policy making, backgrounds have to be explained as a basis for sound interventions, and facts and figures have to be presented in order to direct proper action.

RWEDP disseminates available information and amplifies its policy implications. In addition, RWEDP identifies information from new sources for analysis, evaluation and eventual publication. Also, new data is generated through RWEDP activities. Various user groups need different types of information or different ways of presenting the same information. RWEDP's initial experiences with providing information on the internet indicate that this medium greatly complements the traditional media.

Programme Focal Points

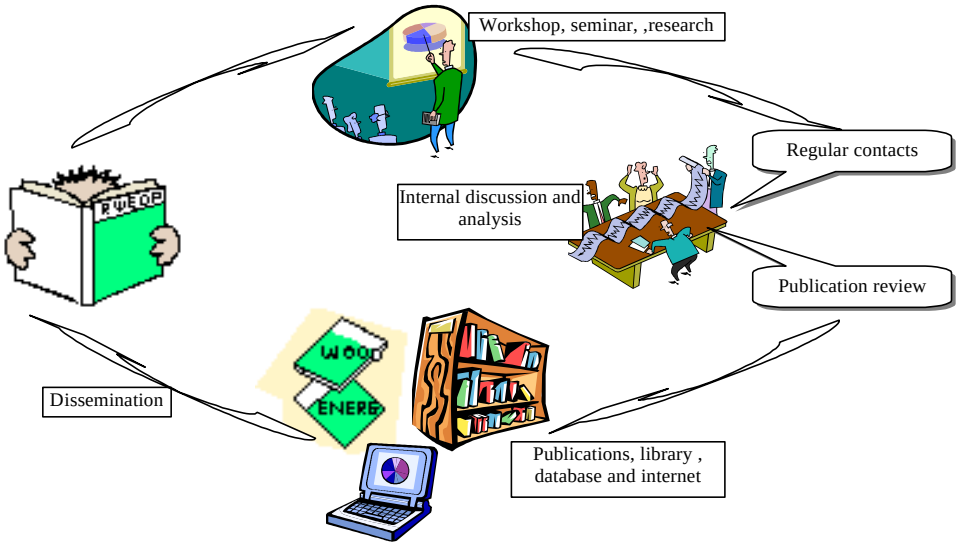
Bangladesh:	Chief Conservator of Forests, Forest Dept, Min. of Environment and Forest; Industry and Energy Dev., Planning Commission, Min. of Planning.
Bhutan:	Dir, Dept of Power, Min. of Trade; Joint Secretary, Forest Services Division, Min. of Agriculture.
Cambodia:	Chief Community Forestry Division, Reforestation Office, Dept. of Forests and Wildlife
China:	DG, Dept of International Cooperation, Min. of Forestry; Dp. Dir INFORTRACE.
India:	Inspector General of Forests, Min. of Environment and Forests; Secr., Min. of Non-Conventional Energy Sources.
Indonesia:	DG of Electricity and Energy Devt; Dir of Regreening and Social Forestry, Min. of Forestry.
Laos:	DG, Dept of Forestry, Min. of Agriculture and Forestry.
Malaysia:	DG, Forest Research Institute; DG, Economic Planning Unit, PM's Dept.
Maldives:	Dep. Director, Agricultural Services, Min. of Fisheries and Agriculture
Myanmar:	DG, Forest Dept; DG, Energy Planning Dept, Min. of Energy
Nepal:	DG, Forest Dept; Executive Secretary, Water and Energy Commission Secretariat
Pakistan:	Inspector General of Forests, Min. of Env., Local Govt and Rural Devt.; Chairman, Pakistan Council of Appropriate Tech.; Chief, Energy Wing, Planning and Devt. Divison
Philippines	Secretary, Dept of Energy; Secretary, Dept of Environment and Natural Res.
Sri Lanka:	Conservator of Forests, Forest Dept; Sec., Min. of Irrigation, Power & Energy.
Thailand:	DG, Royal Forest Dept; DG, Dept of Energy Development and Promotion.
Vietnam:	Director, Forest Sciences Institute; Dep. Dir., Institute of Energy, Min. of Energy

RWEDP's Information and Dissemination Programme

RWEDP information process

A major thrust of RWEDP is to help develop the capability of member countries to generate and assess wood energy related data and use this information for the development and implementation of wood energy policies and strategies. Information generation and dissemination is considered one of the main strategies used by RWEDP to achieve its objectives.

From information and data collection to publications and workshops, the RWEDP information efforts are part of a continuous improvement cycle (see figure below). Through organising workshops, seminars, training and carrying out research projects, RWEDP collects primary information and data from each member country. Regular contacts with member countries and reviewing publications from other organisations also contribute to this activity. Thereafter, RWEDP combines, analyses and reports on these data and information and publishes them in Wood Energy News, RWEDP Field Documents or Reports. The data will also be stored in the RWEDP wood energy database. Through regular mailing, meeting special requests and posting on the internet, RWEDP publications are disseminated throughout the world. Further, the collected information, together with the feedback from RWEDP readers will be used in workshops, training, etc. From then on a new information management cycle starts.



RWEDP Newsletter: Wood Energy News

Wood Energy News (WEN) is the newsletter from RWEDP. It is published on a regular basis and addresses a wide variety of wood energy issues, such as woodfuel resources, woodfuel flows, wood energy planning and policies and wood energy technologies.

RWEDP Wood Energy News mainly contains :

- Research and discussion papers concerning specific aspects of wood energy;
- News and notes from member countries;
- Results from RWEDP workshops, seminars and meetings;
- Publication reviews;
- Forthcoming events;
- Conceptions, misconceptions and basics about wood energy.

Since 1994, the beginning of the third phase of RWEDP, 12 issues of Wood Energy News have been published:

- Vol. 9.1 - The New Project (June, 1994)
- Vol.10.1 - Regional Issues (March, 1995)
- Vol. 10.2 - Gender and Wood Energy (June, 1995)
- Vol. 10.3 - Modern Wood Energy (September, 1995)
- Vol. 10.4 - Wood Energy Planning (December, 1995)
- Vol. 11.1 - Wood Energy Resources (March , 1996)
- Vol. 11.2 - Wood Energy Data (June, 1996)
- Vol. 11.3 - Wood Energy and Environment (September, 1996)
- Vol. 12.1 - Wood Energy, Women and Health (April, 1997)
- Vol. 12.2 - Wood Energy Outlook (October, 1997)
- Vol. 13.1 - The People's Fuel (March, 1998)

A total of more than 3000 subscribers receive Wood Energy News regularly. Many positive responses to Wood Energy News have been received from readers within RWEDP member countries as well as from outside the region.

RWEDP Documentation Centre

The RWEDP documentation centre was initiated to improve the management of existing information in order to provide systematic references for project staff, collaborators and others in support of extension- and training activities. In the centre, there is a wide collection of approximately 5,000 titles in the fields of energy, forestry and environment. These selected documents cover all aspects of wood energy related issues and are organised in 7 main categories under each country or region (General, Energy, Wood Energy Development, Forestry, Community Forestry, Gender and Projects/Institutions). These are being further defined into 40 sub-categories.

RWEDP Publications

There are two major kinds of publication from RWEDP:

- Field Documents (FD): FDs contain the results of studies and research.

- Reports and Miscellaneous Documents(RM): This type of publication documents the meetings, workshops and training courses organised or sponsored by RWEDP.

During the past 4 years about 23 publications have been published by RWEDP. A short summary of each publication is presented in the following pages. In the Index section of this document, some key words are given for convenience in searching and requesting these publications.

In principle, all documents should be available to persons and institutions interested in the subject of wood energy. This policy of free distribution has been widely appreciated.

Publication Review on TIDE

Since the early 90's, RWEDP has requested the Tata Energy Research Institute (TERI, India) to review the latest documents related to wood energy development in its Journal, TERI Information Digest on Energy (TIDE), which is issued four times per year.

From 1995 to 1997, a total of 167 abstracts from books, monographs or reports have been presented. Photocopies of the original papers are also available from the Documentation and Information Centre of TERI. For details, please contact: TERI, Darbari Seth Block, Habitat Place, Lodhi Road, New Dalhi - 110 003, India. Tel: (+91 11) 460 1550; Fax: 462 1770; e-mail: mailbox@teri.ernet.in; Home page: http://www.teriin.org.

RWEDP on the Internet

http://www.rwedp.org

RWEDP's web site has been in service since March 1998. General information about RWEDP including contact addresses, all newsletters published during the present programme phase and some selected publications are retrievable via the internet. Wood energy issues and member country profiles can also be viewed directly from the site. Reports of RWEDP activities and RWEDP publications will be gradually added. It is expected that by the end of 1998, an extensive wood energy database will be available on the internet. Subscriptions to the hard copy of the RWEDP newsletter can also be submitted via our homepage.

About RWEDP

The Regional Wood Energy Development Programme in Asia (RWEDP) has been in existence since 1985, funded by the Dutch government. The current phase (1994 to 1999) is the third. In the previous phases, RWEDP has helped key personnel of energy and forest departments, NGOs, and research insitutions to initiate and strengthen their own activities on wood energy related issues. In the current phase the focus is on strengthening efforts in policy analysis, energy strategy formulation and wood energy resource assessment, while also addressing the need to improve the efficiency of wood and biomass energy utilisation in household, rural and small industries sectors. To this end, RWEDP provides training activities, expert consultations, study projects, briefings, advice, information, etc. jointly with its member countries. At present, RWEDP has 16 member countries. (See Programme Focal Points on page 2)

Databases

I. RWEDP Wood Energy Database

A wood energy database is being developed by RWEDP. The database is designed to present wood energy related data selected by RWEDP from various sources, in a systematic and comprehensive way. (The sources for data are not only regional and international organisations, but also country statistical reports, individual researches and papers presented during workshops or other activities.) Data are organised into four main categories: wood energy resources; fuel flow; consumption; and others. This latter includes demography, economy, income and environment, etc. Under each category, sub-categories and even finer divisions will make data searching faster and more precise. Although the database focuses on wood energy in RWEDP member countries, it also contains data related to non-member countries.

II. Database on Household Energy Organizations

A database is available which documents and assesses the activities of national and regional organizations and institutions as well as individuals active in the field of household energy projects and programs. The information has been compiled by RWEDP in close co-operation with the Asia Regional Cookstove Program (ARECOP), based in Yogyakarta, Indonesia. The latter organization maintains the database. Efforts are being made to keep the information up to date. Therefore, organizations and institutions in the field are invited to keep RWEDP and/or ARECOP informed about their activities. Those interested to learn more about household energy related activities such as cook stove programs in their respective countries, can contact either RWEDP or ARECOP. ARECOP can be contacted by mail: c/o Yayasan Dian Desa, Jalan Kaliurang Km. 7, P.O. Box 19, Bulaksumur, Yogyakarta, Indonesia, Tel/Fax. +62-274-885423 or via email at anton@yogya.wasantara.net.id

III. Database on major woodfuel using industries in the region

RWEDP is in the process of setting up a computerized database system on major woodfuel using industries in the region. The system will contain all sorts of information with regard to wood and other biomass energy. Part of the information concerns major wood fuel using industries in the region, i.e. wood processing industries, small scale building materials industries (bricks, tiles, lime), etc. The data has been compiled by desk studies, complemented with information from field visits and other sources of information. The database has not yet been published

but is available upon request. It should be noted that much of the information is based on national statistics. Although the latter are reliable with regard to the large-scale industrial sector, the same is often not true for the rural based small-scale industries. Particularly as in the latter woodfuels play an important role. For that reason, the available information may not always be up to date. Readers are invited to supply information to RWEDP in order that others can also be kept informed about the present status of major wood fuel using industries in the region.

Manual on Improved Cookstove Production and Dissemination

Improved cook stove projects have been implemented in Asia since the 1950s. However, too many projects over too long a period of time have experienced consistently low adoption rates. This is primarily due to two reasons. One reason is the fact that technical cookstove expertise is still highly centralized. Another reason is that the improved stoves introduced across a country are usually limited to one or two designs. These designs, although appropriate to the needs, wants and conditions of one particular target group, are often not appropriate for other target groups, whose household and community charateristics may be different. In response to this problem RWEDP, in close collaboration with the Asia Regional Cookstove Program (ARECOP), has embarked upon an effort to improve the situation by providing training opportunities through regional and national training courses as well as by developing training materials.

The training courses are different from most which have been held before. They are not designed to transfer particular stove designs or stove building techniques. Rather, the training encourages participants to use a process of stove selection and introduction, which does not ignore the multitude of variables, which determine the usefulness of a stove. The variables include: fuels commonly used, available stove materials and their characteristics, economic limitations, gender roles, kitchen size and layout, preferred cooking position, cooking habits, foods commonly cooked, traditions, household industries, non-cooking functions of stoves, combustion theory, heat transfer and heat loss theory. The training is aimed at improved stove project field workers who are involved in the initial surveys and assessments, and who have the most information to make wise choices in modifying a traditional stove or selecting an appropriate improved stove design. The training method encompasses both technical and non-technical factors, as both must be integrated in the development of an appropriate stove design.

For the courses, use is made of training materials in the form of trainer and trainee manuals. Both manuals are based on extensive experiences from trainers and trainees in this field, gained during the last decade. The manuals are available in the English, Khmer and Bangladeshi languages and Indonesian, Nepali and Vietnamese versions are currently being prepared. Those interested in receiving the manuals are invited to contact RWEDP.

RWEDP Publications

Publication Index

Key words for publications are presented under two types of index, Countries and Subjects, followed by the number of the related documents. Some documents contain information on more than one country or subject, thus, it will show under all relevant key words. The **bold** number refers to Field Document (**FD**) and the regular numbers refer to Reports and Miscellaneous Documents (RM).

Index by Country

Country	Publication	Country	Publication	Country	Publication	Country	Publication
Bangladesh	**FD 45, 47, 50;** RM 26	India	**FD 45, 47, 49, 50;** RM 26	Myanmar	**FD 45, 47, 50;** RM 21, 33	Philippines	**FD 45, 47, 50;**
Bhutan	**FD 45, 47, 50;** RM 26	Indonesia	**FD 45, 47, 50;** RM 21	Laos	**FD 45, 47, 50;** RM 21	Sri Lanka	**FD 45, 47, 50;** RM 26
Cambodia	**FD 45, 47, 50;** RM 21	Malaysia	**FD 45, 47, 50;** RM 21	Nepal	**FD 45, 47, 50;** RM 26	Thailand	**FD 45, 47, 48, 50;** RM 21
China	**FD 45, 47, 50;** RM 21	Maldives	**FD 45, 47, 50;** RM 26	Pakistan	**FD 45, 47, 50;** RM 21, 31, 35	Vietnam	**FD 45, 47, 50;** RM 21, 27

Index by Subject

Subject	Publication	Subject	Publication	Subject	Publication
Agroforestry	RM 21, 26	Flows and Trade	RM 25, 27, 30, 33, 35	Policy	**FD 49, 50;** RM 24, 26
Conversion	**FD 46;** RM 23, 28	Gender	RM 22, 24, 28	Sources and Supply	**FD 45, 50;** RM 21, 25, 26, 27, 31, 32
Data	**FD 47, 48, 50;** RM 29	Health	RM 22, 24, 28		
Economics	RM 25, 27	Modern Applications	**FD 46;** RM 23, 28, 31, 32, 34, 36, 37	Utilisation and Conservation	**FD 46, 47;** RM 23, 31, 32, 34, 36, 37
Environment	**FD 50;** RM 29	Planning	**FD 48, 50;**		

Note: The publications from previous RWEDP phases are not listed in the tables.

Field Documents (FD)

Woodfuel Productivity of Agroforestry Systems in Asia: A Review of Current Knowledge
by Michael Jensen

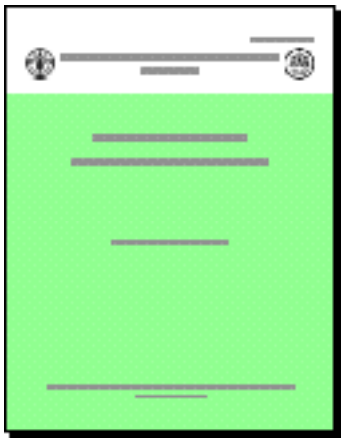
FD 45
40 Pages
1995

This document presents a review of the current scattered knowledge concerning the woodfuel production capabilities of traditional and new agroforestry systems. The author believes that agroforestry is a sustainable and productive form of landuse. In order to process landuse evaluation and planning for agroforestry, quantitative knowledge of the productive capabilities of land is required. Woodfuels have been recognized as an important product of agroforestry systems. This contradicts the earlier view of forests as the most important woodfuel supplier. The author of this document argues that a major part of the woodfuel originates from trees on non-forest land, mostly from some kinds of agroforestry systems. He further states that the contribution of agroforestry to energy supply will be much more prominent as the systems expand. The review provides some indications and guidelines as to what output of woodfuel is to be expected in a given situation.

The focus of this paper is primarily local farmers with average or below average resources, who form the majority of the rural agricultural population. The data and discussions presented in the paper are of a general nature, but can also be relevant for large scale enterprises with higher inputs.

The review concentrates particularly on RWEDP member countries and categorically identifies the limitations of data concerning agroforestry. Besides a brief review of the current woodfuel situation in Asia, it covers other areas such as woodfuel demand and supply sources and the importance of wood energy in total energy consumption/supply. It also tries to present woodfuel production data according to broad climatic and structural classifications of the areas where agroforestry has been practised, together with possible options and limitations of estimating woodfuel production volumes as well as the productivity of agroforestry trees.

Biomass Briquetting: Technology and Practices
by P.D. Grover & S.K. Mishra



FD 46
43 pages
1996

This report gives a comprehensive technical overview of the various briquetting technologies used within the region with emphasis on an improved technology developed by the Chemical Engineering Department of the Indian Institute of Technology, New Delhi. The improved technology emphasizes the use of pre-heating the feedstock to a temperature of about 80-100 degrees Celsius. This results in a marked reduction in power requirements to drive the briquetting equipment and reduces the wear and tear of the briquetting screw. The report was prepared as a follow-up of the recommendations made during the International Workshop on Biomass Briquetting – New Delhi, India, 3-6 April 1995 (see Report and Miscellaneous Document No. 22 - Proceedings of the International Workshop on Biomass Briquetting).

Review of Wood Energy Data in RWEDP Member Countries
by Jossy Thomas, Jaap Koppejan, Feli Ariola, Ruby Buen, Joost Siteur

Wood and other biomass are major energy sources in all RWEDP member countries. Further wood energy development needs to be based on appropriate strategies, policies and planning, which, of course, require adequate data. However, data on the supply and utilization of wood energy are generally patchy and sometimes even conflicting. RWEDP, jointly with its member countries, is in the process of collecting, assessing and compiling relevant data.

The review presented in this field document is based upon secondary data available from sources at Thailand-based documentation centers, e.g., at FAO-RWEDP, other UN offices and AIT. It makes clear that significant differences exist between countries with respect to data availability. Hence, the document allows for analyzing data gaps and preparing for further strengthening of data bases, e.g. by identifying additional data sources in member countries and eventually by cost-effective primary data collection efforts.

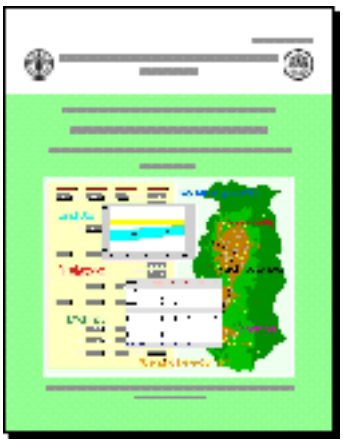
FD 47
104 pages
1997

Data Collection & Analysis for Area-Based Energy Planning:
A Case Study in Phrao District, Northern Thailand
by Joost Siteur

The site-specific nature of rural energy necessitates area-based planning, i.e. demand and supply assessment, forecasting and plan formulation and implementation for a distinct area, defined either by administrative boundaries or by factors such as agro-ecology, economy, social or cultural charapcteristics. Unfortunately, at present energy planning in most RWEDP member countries occurs mainly at national level, with an emphasis on conventional fuels. Little if any practical experience of area-based energy planning have been documented. Therefore, the possibilities and limitations of area-based energy planning with respect to data collection and analysis are hardly known.

In order to address this issue, a case study was conducted in Phrao District, Northern Thailand that followed and documented the planning process from the identification of data requirements to the impact analysis of future trends and intervention options. The possibilities and limitations of coming up with an energy plan using available data and analysis tools were studied, considering the effort and skill required for data collection and analysis. The study only used secondary data that are available from government agencies such as ministries, provincial and local administration offices and other organisations.

Several woodfuel demand and supply scenarios were developed, based on available data and background information. Uncertainty assessment was applied to evaluate the reliability and usefulness of the analysis. It was concluded that data collection was a time-consuming process because data had to be obtained from a wide variety of agencies, and some data were lacking. Nevertheless the assessment of the energy situation and forecasting through scenario development is possible and feasible at district level in the case of Thailand.



FD 48
67 pages
1997

The Woodfuel Scenario and Policy Issues in India
by Dr. N. C. Saxena

FD 49
75 pages
1997

This document highlights the importance of woodfuel in India, particularly from the perspective of the majority of its users most of whom are self-collectors or gatherers of the fuel for domestic consumption (for cooking and heating). Free rather than traded supply is dealt with in considerable detail. The issue of fuel availability for free collection, rather than its quality, is presented in the context of the prevailing practice of fuelwood supply/demand. Besides meeting household level fuel needs, some of the collectors are also reported as relying on woodfuel trade for cash earnings for subsistence.

The share of woodfuel in total energy consumption is presented as about 20-30%, more than 90% of it consumed in the domestic sector. Being a traditional fuel, woodfuel use reflects the changing energy consumption pattern in the urban center, which is dominated by commercial fuel substitutes, but its use in rural areas is still prominent. In absolute terms, the consumption of woodfuel is reported to have increased from 1978 to1993, hence its use will not be completely phased out in the near future. Woodfuel is considered more than just a commodity for consumption. The size of population employed in the collection, conversion and distribution of fuelwood estimated in the document based on some sample cases, and the hardship associated with its collection from forest and non-forest lands and the adverse effect of its improper utilisation on human health, particularly of women and children is highlighted. It also reviews government sponsored programs to overcome the woodfuel shortages and assesses the role played by the non-government sector.

Regional Study on Wood Energy Today and Tomorrow in Asia
by RWEDP

FD 50
167 pages
1997

This study provides an outlook on wood energy in Asia up to the year 2010. The document has been prepared by RWEDP staff at the request of the Asia-Pacific Forestry Commission, as a contribution to the upcoming Forestry Sector Outlook Study for the Region.

The study summarises characteristics of wood energy supply and use, and provides an outlook on wood energy to the year 2010. It presents a critical review of available wood energy data, leading to best estimates of future consumption. It also tries to estimate the present and future potential supplies of fuels from wood and crop residues. The study shows that in most countries, the actual availability of woodfuels is not the major concern; rather it is their distribution to people in need.

This point leads to recommendations to policy makers on how best to integrate woodfuel supply with other objectives, particularly in the forestry sector. The integration of woodfuel development in other relevant sectors like agriculture and energy is also strongly recommended. The document further calls for efforts to upgrade fuels from crop residues by using cost-effective technologies.

Greenhouse gas implications of wood energy use in RWEDP member-countries are discussed. It is estimated that in 1994 emission of some 560,000 kton of CO_2 was avoided by the use of woodfuels as compared to coal as a (hypothetical) alternative. This figure will increase to about 700,000 kton by the year 2010. When capitalised in terms of avoided costs for CO_2 abatement, this leads to an indicative figure of 28 billion US$ annually (respectively 35 billion US$).

This study reveals the weaknesses of available data and cautions about scenario development which lacks substantial basis. One of the striking messages is that the future of Asia's tropical forests and the problems of woodfuel users are not as closely linked as is often assumed.

Reports and Miscellaneous Documents (RM)

Regional Advisory Committee Meeting

This is the report of the first Regional Advisory Committee Meeting of the present phase of RWEDP. The meeting was held in Bangkok from 31 January through 4 February 1995 at the start of the third phase of RWEDP (July 1994 – December 1999). The meeting was organized in order to seek policy advice from the 15 member countries as well as other interested parties and regional and international organizations. Discussions focussed on the overall work programme for the first few years as well as on a more detailed workplan for 1995 to be undertaken by RWEDP together with its member countries. In particular the meeting aimed to:

- provide broad strategic advice on the direction of the project and its workplans for the first 2-3 years;
- provide advice on priorities for action at the regional level;
- contribute to the development and adoption of improved wood energy policies, plans and strategies in member countries.

Brief summaries of papers presented during the meeting are given including the outcome of the group discussions held during the meeting. As a result, an extensive set of conclusions and recommendations were drawn up by the participants in the meeting which is reproduced in full in the report.

RM 20
69 pages
1995

Training Workshop on Integrating Woodfuel Production into Agroforestry Extension Programmes in Southeast Asia

This document is a summary proceedings of the Southeast Asian sub-regional training workshop, held in West Java, Indonesia, in collaboration with the Asia Pacific Agroforestry Network (APAN) of FAO, a sister project of RWEDP in the region, and the Indonesian Agency for Forestry Research and Development (AFRD), from 23-30 April 1995.

The Workshop, which addressed the issue of the level of integration of woodfuel production into on-going agroforestry practices, involved participation from both government and non-government sectors, related training institutions in the sub-region, in particular China. The training workshop, being the first of its kind in the region, aimedto share knowledge in agroforestry among the RWEDP member countries with complimentary input from APAN. Besides giving the background of the training workshop, the report touches upon the issue of woodfuel production and utilization, participatory approaches to agroforestry extension, woodfuel planning and marketing in the host country, and the participants' evaluation of the training workshop. Seven technical and thematic papers on the subject are included in an appendice.

RM 21
APAN Report No. 19
142 pages
1995

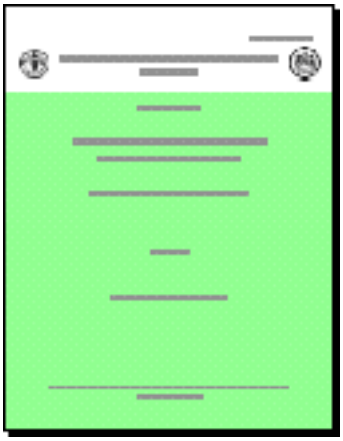
Regional Expert Consultation on Gender and Wood Energy in Asia

RM 22
120 pages
1995

Gender issues refer generally to the role and position of women but include other groups in society such as children, elderly people, etc. Such groups often face specific problems with respect to the production and use of wood and biomass fuels. Gender issues are not new and in fact they have, for years, played an important role in community forestry and household energy projects. However, in the overall planning and general policy making for wood energy, they have generally not been institutionalised.

Quite a number of RWEDP-member countries have already adopted articulate policies that address gender problems, some even specifically in the field of wood energy. However, a lot still needs to be done to operationalise policy statements into effective action. During the expert consultation, held in June 1995, policy makers of member countries of both the forestry and energy sectors reviewed relevant gender analysis tools and discussed how to institutionalise a gender approach in their respective organisations. The meeting provided a conceptual framework to assist in the process of integrating gender issues into wood energy policies. One of the results was the endorsement of an operational policy statement of RWEDP on Gender and Wood Energy that is reproduced in the report. The report provides summaries of the country statements as well as the full text of the presentations made by the eminent resource persons.

International Workshop on Biomass Briquetting



RM 23
177 pages
1996

This report describes the results of the International Workshop on Biomass Briquetting organized by the Chemical Engineering Department of the Indian Institute of Technology, New Delhi in cooperation with the University of Twente, the Netherlands. The report basically describes the outcome of the research and development programme on Biomass Briquetting. In its 1st phase, this programme focussed on state-of-the-art reviews on briquetting technologies in various countries in the region. Based on the results of this phase, a 2nd phase was started and this report gives an overview of the results obtained.

The focus of the report is the development of an improved briquetting technology to turn agricultural and forest residues into a suitable fuel for industrial and institutional use as well as the verification of the various socio-economic assumptions made during the previous phase. A major conclusion of research in the field is that the use of pre-heating the feedstock drastically reduces the wear and tear of the machine in addition to reducing the power consumption of the equipment.

During the workshop a variety of presentations was made dealing with resource availability, experiences with briquetting technologies, prospects for marketing the products, etc. Summaries of these presentations are provided in the report. Given the fact that large amounts of agro- and forestry residues remain unused in the region, it was recommended that efforts be made by various national and international organizations to promote the technology (see also Field Document No. 46 – Biomass Briquetting: Technology and Practices).

Sub-Regional Training Course on Women in Wood Energy Development

The report describes the first Sub-regional Training Course on Women and Wood Energy Development which was organized by RWEDP for member countries from the South-Asian region in 1995. The training course was a follow-up of the Regional Expert Consultation on Gender and Wood Energy in Asia, held in Chang Mai, Thailand (see Report and Miscellaneous Document No. 22). The main subjects, all in relation to wood energy development, in the training course were:

- Personal awareness of gender, like perceptions about questions of gender and development;
- Placing gender, i.e. understanding different possible approaches to issues of women and development, which have different implications for the kinds of intervention that are selected;
- Gender analysis tools, i.e. step-by-step methods and procedures with respect to planning, assessing project proposals, etc. to check probable impacts on men and women;
- Adapting existing checklists, e.g. to local circumstances;
- Gender analysis field tools, i.e. tools and procedures that are useful in the fundamental redesign of projects taking gender principles into account.

Some 20 higher and middle-level staff from institutions and departments concerned with wood energy planning, policies and strategies, from the forestry sector, the energy sector and NGOs, involved in the implementation of projects and programmes participated in the training course. During the training various methods and tools such as case studies, exercises, discussions, audio-video materials, role playing, etc. were introduced. Using these methods and tools, all described in the report, the participants, learned through a "hands-on" approach, how and when to use such "interventions". The report stresses, that although there are common notions about gender and development invariably differences are found within regions and countries and a "standard" approach may have to be adapted to suit local situations.

RM 24
111 pages
1996

Regional Course on Trade in Wood Fuel Related Products

This report is a summary proceedings of the Regional Course on Trade in Wood Fuel Related Products, held in Peshawar Pakistan, in collaboration with the Pakistan Forest Institute (PFI), in October 1995.

The course gave an opportunity to bring together the pioneer experts who had contributed in the past by designing and conducting woodfuel flow studies in RWEDP member countries. The report includes the two sets of wood energy development activities, identified by these eminent experts along with the course participants, for implementation at the national and regional levels in South Asia and Southeast Asia. Further, the report also introduces the background, objectives and structure of the course, the field visit, an overview of the woodfuel trade in the region, etc.

In all, eight papers are included in the report covering three important aspects, viz. patterns of supply and use of traded woodfuels, issues in the trading and marketing of woodfuels, and issues related to policy and strategy for commercialization of wood fuels.

RM 25
191 pages
1996

Training Workshop on Integrating Woodfuel Production into the Implementation of Agriculture, Forestry and Rural Extension Programs in South Asia

RM 26
214 pages
1996

This report contains the proceedings of the *Training Workshop on Integrating Woodfuel Production into the Implementation of Agriculture, Forestry and Rural Extension Programs in South Asia,* held in Dhaka, Bangladesh, in collaboration with the Bangladesh Forest Department and the Bangladesh Agriculture Research Council, from 24-30 October 1995.

The report comprises two parts and eight annexures. Part one describes the second sub-regional training workshop which was designed for resource persons and participants from the member countries in South Asia. Besides presenting the training workshop background, part one deals with topics such as training process, participants expectations, brief country reports, and field exercises. The mini proposals for national level follow-up under RWEDP's assistance which were prepared by the participants for their respective countries are provided in the report, in addition to the results of the participants evaluation of the training.

Part two of the report presents the general wood energy situation in South Asia, together with some country specific presentations: two from Bangladesh, one on the policy and strategy in support of non-forest area woodfuel production, and the second on the role of non-forest land in woodfuel production; one from India, which highlights the woodfuels under community forestry protection in Orissa State; two from Pakistan, one dealing with the integration of woodfuel production, flow and utilization in the training curricula of the PFI, and the second on production of woodfuel in non-forest lands and its flow to users; and one from Sri Lanka, also on the role of non-forest land in woodfuel production. Part two also includes the framework which explains the factors that affect farm household-level decisions regarding agroforestry.

National Training Course on Woodfuel Production and Marketing in Forest, Agriculture and Tree Production Systems, Vietnam

RM 27
38 pages
1996

The report contains the proceedings of the *National Training Course on Woodfuel Production and Marketing in Forest, Agriculture and Tree Production Systems*, held in Hanoi, Vietnam, in collaboration with the Forest Science Institute of Vietnam and Pakistan Forest Institute (PFI), from 17-20 April 1996.

All sessions of the Vietnam national training course in Hanoi were held in Vietnamese language, including the presentations and the discussions that followed. Some of this material also has been translated into English for publication in this report. It comprises of four sections. The first section introduces the background, objectives, methodology, etc. The second section gives brief summaries of the seven papers that were presented to highlight national and/or area specific wood energy development, primarily the role of wood energy in the national economy, as well as the issues related to its production and marketing. In section three the conclusions and recommendations of the training course are provided. Eight appendices in the report provide the details of the program agenda, the participants and resource persons, field visit site, etc.

Regional Workshop on Stoves Used for Space Heating and Cooking at Different Altitudes and/by Ethnic Groups

Stoves serve a range of purposes. The most common is cooking but in some areas, particularly where the temperature is low, stoves are also used for space heating. Although climatic conditions are a key factor, other influences such as differences between ethnic groups and relative wealth may also play a role in stove use. The results of the workshop, co-organized with the International Centre for Integrated Mountain Development (ICIMOD) based in Kathmandu, Nepal, which provided a forum for the pooling of information, exchange of experiences and achievements of programmes and persons in the region, is comprehensively covered in this report.

There is a brief overview of extensive discussions held in plenary sessions and in separate groups. Subjects include Framework for Policy Formulation; Strategies for Technology Transfer and; Action Plans for Follow-up Activities and Programme Implementation. Summaries of the 24 country papers and papers resource persons are also included in the report, in addition to a comprehensive presentation of the conclusions reached and recommendations made. The latter basically focus on the need for an integrated approach by different disciplines, including the health sector, with due attention being paid to gender issues.

RM 28
51 pages
1997

Energy and Environment Basics

Wood energy development activities are ideally carried out by multidisciplinary experts as such activities have links to many different sectors such as energy, forestry, environment, gender etc. However, such experts are not usually available. Those involved in wood energy development typically have a specialised, but often non-academic, education in one of the fields of energy, forestry or environment. Energy and Environment Basics aims to be of assistance to such people as it brings together different basic energy figures and energy issues.

The publication starts with a basic introduction to energy terminologies and units, followed by energy accounting principles (energy equivalence and replacement values, energy balances). Some global and regional general energy consumption data are given. A significant part of the report is devoted to fuel combustion characteristics, as well as wood production figures of some common species. The report further includes some key figures and trends in production and consumption of electricity, some key figures of energy in transportation and energy intensity. Some environmental data includes emissions of greenhouse gases as well as specific emissions and air emission standards of other pollutants. Finally, an extensive glossary on specific terms related to energy and environment is included.

The document has been prepared jointly with the Technology and Development Group of the University of Twente in the Netherlands. Following this first edition, RWEDP aims to prepare a more specific 'Wood Energy Basics', for which inputs are welcomed.

RM 29
85 pages
1997

Woodfuel Flows:
An overview of four studies carried out on behalf of or with support from RWEDP

RM 30
43 pages
1997

Woodfuel flows refer to the mechanisms by which wood is harvested from a tree and eventually reaches the end-users as fuel. Though such flows, involving the owner of the tree, the wood cutter, the transporter and buyers and sellers of wood during the intermediate steps until it ultimately reaches the end-user can differ from area to area, the report shows that some general lessons can be learned from the four case studies. This fact is corroborated by additional sources of information from other countries.

However, at the same time it is clear that the "woodfuel business" is also often complex with intricate links with rural economies. Income generation from woodfuel flows goes well beyond the forestry sector and in many cases provides a safety net for poor and deprived people. It is shown that policies and interventions aimed at developing wood energy must, in order to be effective, be suited to local conditions and be based on a thorough understanding of local conditions and practices.

National Workshop on Wood-Based Energy Systems for Rural Industries and Village Applications - Pakistan

RM 31
15 pages
1997

The report describes the organization and the results of the national workshop organized by the Pakistan Council for Appropriate Technology. Issues such as the importance of small scale industries to the local economy through the provision of employment, the use of local raw materials, etc. were brought to the attention of national policy makers and planners. Emphasis was placed on the problems these small scale industries are facing e.g. using outdated processing technologies, a lack of skills both at the management and employee level, lack of access to working capital and organizations which can provide support in this, etc.

During the workshop 9 papers were presented dealing with various issues including rural development in relation to small-scale industries, and problems associated with woodfuel and biomass energy supplies. Extensive discussions were held with regard to the production and supply strategies for fuelwood as well as policies with regard to the sustainable supply of biomass fuels. Conclusions and recommendations focus mainly on the need to improve the understanding of national policy makers of the importance of the rural based industries in the national economy and the need to improve the statistical database for this important sector.

Regional Expert Consultation on Selection Criteria and Priority Rating for Assistance to Traditional Biomass Energy Using Industries

Traditional biomass energy using industries play an important if not a vital role in local economies in many countries in the region by providing local employment as well as making use of locally available raw materials. However, at the same time many of these traditional biomass energy-using industries are facing many constraints. This is basically caused by the use of outdated technologies, problems with obtaining credits and investment capital as well as problems with getting assistance and advice from relevant support organizations. During the expert consultation, extensive discussions were held, and the results are described in this report in the form of selection criteria to be used for the selection of those industries which should receive priority for further assistance. These consist of 5 main rural based industries/activities e.g. the brick and rooftile industries, lime burning, the tobacco and sugar industries as well as charcoal making including briquetting and wood drying.

Summaries of country statements as well as papers prepared by resource persons give an overview of the status of rural based biomass energy using industries in the regions as well as an overview of potential options and available support mechanisms/systems for this sector of the industry. Conclusions and recommendations focus on mechanisms which can be used for selecting industries as well as the need to improve the database of the sector and for more cooperation and coordination among local organizations as well as international organizations.

RM 32
77 pages
1997

National Training Workshop on Woodfuel Trade in Myanmar

This is the report of the *National Training Workshop on Woodfuel Trade in Myanmar*, held in the Forest Research Institute, Yezin, in collaboration with the Myanmar Forest Department, from 27-30 November 1996.

The report comprises three parts. Part one includes the background, objectives, and other information related of the workshop, including a description of the field trip, plenary and closing sessions, and the recommendations of the national training workshop. Part two includes the nine papers which were presented by different resource persons. These presentations cover the general position of wood energy in Myanmar, the flow of woodfuel from Pyinmana to the Yangon market, dissemination of the A-1 (fuelwood) Cook Stoves, the flow of woodfuel in the Dry Zone, the woodfuel position in mangrove areas, the output of fuelwood species from some experimental fuelwood plantations, the role of non-forest areas in woodfuel production, the use of woodfuel in cottage industries in Yamethin District, and the framework for woodfuel flow studies. Part three comprises four annexures which give details of the workshop programme, the formal inaugural session, the field visit itinerary, and a list of participants.

RM 33
164 pages
1997

National Workshop on Wood-Based Energy Systems for Rural Industries and Village Applications - Bangladesh

RM 34
19 pages
1997

The report describes the organization and the results of the national workshop organized by the Bangladesh Council for Scientific and Industrial Research. The workshop brought various issues to the attention of national policy makers and planners, e.g. the importance of small-scale industries to the local economy by providing employment and using local raw materials. Emphasis was also placed on the problems these small scale industries are facing e.g. using outdated processing technologies, limited skills both at the management and employee level, lack of access to suitable financing, etc.

Abstracts of the nineteen papers presented during the workshop are presented in the report. These deal with various issues including rural development in relation to small scale industries, the status of various rural based small scale industries like brick making, gur (sugar) making, silk/sericulture, yarn twisting and dyeing, bakeries, potteries, ceramics, rice-parboiling, herbal medicines, etc. Extensive discussions were held on the production and supply strategies for fuelwood and on policies for the sustainable supply of biomass fuels) including agro-residues. These discussions resulted in the drawing up of a comprehensive set of conclusions and recommendations. The latter focus mainly on the need to improve the understanding of national policy makers of the importance of the rural based industries in the national economy and the need to provide adequate support to this important sector.

National Training workshop on Woodfuel Trade in Pakistan

RM 35
148 pages
1997

This is the proceedings of the *National Training Workshop on Woodfuel Trade in Pakistan*, held in Peshawar, in collaboration with the Pakistan Forest Institute (PFI), from 12-16 May 1996.

The report comprises three parts. Part one introduces the national training workshop with details about its background and objectives, workshop organization format, inaugural and technical sessions, recommendations derived from five days of deliberation based on paper and case study presentations, discussions and field observations. The workshop recommendations cover the issues related to production, transportation, marketing and distribution and utilization of woodfuel, including gender and woodfuel in Pakistan. Part two contains fifteen technical papers in the form of lecture notes and/or findings of the area-based case studies on the subject, which were presented to the workshop participants. The authors of these papers represented many different institutions in Pakistan dealing with forestry and energy issues among others. The papers addressed topics such as the national and provincial energy demand/supply scenarios, the woodfuel distribution and marketing systems, the trade in woodfuel related products, the issues and options for fuelwood trading in Pakistan, the role of women in biomass energy, etc. Part three of the proceedings comprises six appendices, which include the workshop programme, list of participants, addresses delivered during the formal sessions, workshop evaluation findings, and information about field visits.

Regional Expert Consultation on Modern Applications of Biomass Energy

Modern applications of biomass energy are clean, convenient, efficient, reliable, and economically and environmentally sound. “Modern” does not necessarily imply large-scale, and electricity is not necessarily part of the application. However, whatever criteria for “modern applications of biomass energy” are chosen, it is not the fuel per se which makes biomass energy modern or traditional. Paradoxically, in industrialized countries, biomass is largely considered a modern fuel while in developing countries it is usually looked upon as traditional. However, what really matters is the level of technology used in the application.

These and other related topics formed the main discussion points of the expert consultation described in this report. Participants in the meeting came from the government and private sector as well as organizations and institutions which focus on R&D. Summaries of country statements as well as papers prepared by resource persons give an overview of the status of modern biomass energy applications in the region.

The experts recommended that, in the context of an increasing demand for energy and power in Asia, biomass can and should play a greater role than it is doing at present. Hurdles identified are technical, financial and institutional. The experts underlined the importance of the transfer of knowledge and modern technology amongst the countries in the region as well as from outside the region.

RM 36
56 pages
1997

Regional Workshop on Stoves for Use with Loose Residues as Fuel

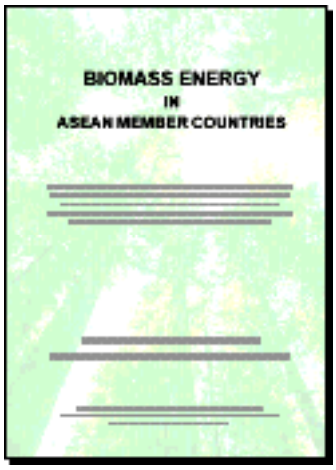
Due to various reasons, including increasing shortages of woodfuels, many people are starting to use residues such as straw, leaves, husks, etc. as their main cooking fuel. However, many of the traditional stoves used for cooking are not very suitable for use with these loose residues as residues behave differently from fuelwood when combusted. Burning loose residues often results in more ash**,** smoke, etc. and produces a less clean kitchen and less healthy working conditions for the users.

Based on presentations made by the participants and resource persons (summaries are provided in the report), extensive discussions were held with regard to the issues involved. It was concluded that even though residues have become more important as a fuel, often this shift from fuelwood to residues is only partial and is influenced by factors such as availability and preference. Such a conclusion has important implications for the design of stoves, as their multi-fuel flexibility should preferably be maintained. The lack of information on residues such as their availability and accessibility, seasonality, degree of monetization, time budgeting, etc. was also found to be a factor which impedes activities to assist stove users.

It is recommended that more activities be undertaken with regard to stoves for use with loose residues such as, for instance, providing basic information on the characteristics of the different types of residue fuels and how these characteristics influence stove design and use. Such activities should: a) take into account the need for comprehensive surveys and assessment exercises before starting, b) strive for a balance in both the development of stove designs and program strategies, c) ensure the credibility of the technology and the program and d) provide significant and perceivable benefits for the users in order to ensure successful adoption of the technology.

RM 37
110 pages
1998

Biomass Energy in ASEAN Member Countries



RWEDP report, in cooperation with EC-ASEAN COGEN Programme and the ASEAN-EC Energy management Training and Research Centre
19 pages
1997

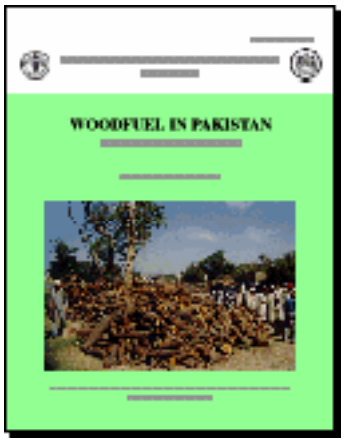
Biomass is an important source of energy in ASEAN member countries and its use is still increasing. In ASEAN, energy from biomass such as wood and agricultural residues represents about 40% of total energy consumption – more than 2.5 million Terajoules per year. The bulk is from woodfuels, with an estimated value of US$ 7 billion per year. Main applications are in the domestic sector and in small-scale industries, but also increasingly in modern systems for combined heat and power generation.

Tropical countries enjoy favourable conditions for growing biomass. However, constraints to optimal use as an energy source are still to be resolved. Main issues are legal and institutional barriers, as well as lack of information and technology transfer. Furthermore, common misconceptions about biomass energy have to be adressed. It should be emphasised that the larger part of woodfuels come from non-forest land; woodfuel use is not the root cause of deforestation; biomass energy is more than a traditional commodity; and biomass energy will not phase out in the foreseeable future.

It is recommended that energy policy makers in ASEAN member countries acknowledge the important role of biomass energy and its future potential. This will mean biomass energy can be integrated into overall energy policy making and planning. In particular the potential of modern applications for power generation should be given serious consideration as a way of ensuring optimal utilisation of each country's biomass resources.

Forthcoming Publications

Woodfuel in Pakistan - Training material



FD 51
116 pages
1998

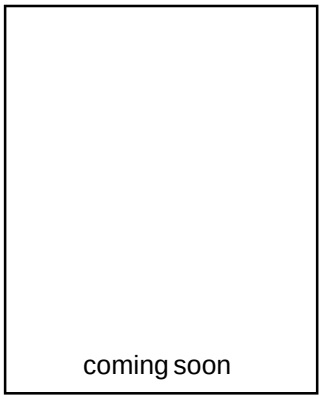
Wood energy is not yet a common subject in most of the region's regular educational curricula, whether for foresters or for other professionals. This situation contradicts the proven economic and social importance of wood energy in Asia. The Pakistan Forest Institute (PFI, at Peshawar) is aware that many of its graduates take tasks that are related in some way to wood energy and therefore, has pioneered integrating aspects of wood energy into its curricula, and provides specialised research programmes for students who opt to pursue wood energy subjects further.

This training material introduces the situation of wood energy in Pakistan, then, the following woodfuel related aspects are presented chapter by chapter: characteristics, consumption, demand and supply, conversion system, conversion technology, collection and transportation, trade and distribution, marketing and utilisation. Furthermore, the document gives an overview of wood and biomass energy in RWEDP member countries.

Images of Wood and Biomass Energy in Industries in Thailand

In Thailand as in other countries, numerous industries use wood or other biomass as their main fuel. Many of these industries are small scale, are located in a rural or urban environment, and employ traditional production process. Some of these industries avail of modern technology to make efficient use of wood and biomass fuels in a local, cost-effective way.

Some years ago, Thailand, within the framework of the Thai Forestry Sector Masterplan, implemented a nation-wide survey of rural industrial wood consumption. This generated a wealth of data on types and characteristics of industries utilising fuelwood. As this type of information will be of interest to many people, RWEDP in close cooperation with staff from the Royal Forest Department decided to compile the information in the form of a photo-illustrated publication. This publication gives an overview of the main wood/biomass-fuel based industries in Thailand, such as agro-processing, food-processing, metal processing, forest products, mineral based industries and textile. It also provides some information about production, technologies, fuel characteristics and enterpreneurial aspects. This type of information will be relevant for strategies, policies and programmes not only in the energy and forestry sectors, but also with respect to industrial development, employment generation, technology development, regional development, and others.



FD 52
127 pages
1998

Woodfuel in Bangladesh
- Production and Marketing -

This document is a collection of technical papers presented in the National Training Course on Integrating Woodfuel Production and Marketing in Forest, Agriculture and Tree Production Systems, which took place in Bogra, Bangladesh, 7-11 December, 1996. This training course was organised by the Forest Department of Bangladesh with the financial assisstance of RWEDP as a follow up programme to the sub-regional workshop on "integrating woodfuel production in the implementation of agriculture, forestry and rural extetsion programmes in south Asia" (RWEDP Report RM 26).

These papers present a wide-range of information on woodfuel production and marketing. They include 3 case studies on: the marketing of woodfuel in Bangladesh; wood based industrial activities; and woodfuel production and marketing in Cox's Bazar. An overall analysis of wood energy in Bangladesh is also presented.

RM 38
175 pages
1998

Second Regional Advisory Committee Meeting

coming soon

RM 39
130 pages
1998

This is the report from the second Regional Advisory Committee Meeting, which was held in September, 1997. All 16 member countries were represented, both from the forestry and the energy sectors, together with experts from FAO and other specialised organisations. The delegates reviewed RWEDP's achievements so far and discussed the strategies for further wood energy development. The meeting was attended by the Assistant Director General of the FAO, a representative of the government of the Netherlands and a representitive of the government of Thailand.

The committee unanimously took the view that problems of wood energy development still persist, notwithstanding the ongoing national and international initiatives for improvement of production and utilisation systems. The committee provided specific advice to RWEDP for the development of policies and institutions; human resources; a comprehansive database, and networking.

Woodfuel in Sri Lanka
- Production and Marketing -

coming soon

RM 40
93 pages
1998

This report contains all the technical papers presented in the national training course on integrating woodfuel production and marketing in forest, agriculture and tree production systems, which took place at Kandy, Sri Lanka in November 1996. This training workshop was a follow-up to the sub-regional training workshop on "Integrating Wood Fuel Production in the Implementation of Agriculture, Forestry and Rural Extension Programmes in South Asia" (see RWEDP Report 26).

The primary objective of this national training course was to strengthen the institutional capacity of relevant agencies to develop an effective fuel wood production and marketing systems. The picture presented by the papers is that the existing level of dependency on fuelwood (the primary source of energy in Sri Lanka) is likely to continue in the foreseeable future. Currently, most of the household level consumption of wood fuel is being met with supplies coming from non-forest production resources. Therefore, in order to manage non-forest land based production, there is a need to develop appropriate energy plantation technologies in the country. In this regard it is also important to develop strategies which promote the enhancement of woodfuel production as well as better marketing, not to mention energy efficiency enhancement in woodfuel utilisation.

Woodfuel in the Philippines
- Production and Marketing -

This publication contains the report on the National Training Workshop on Integrating Woodfuel Production and Marketing in Forest, Agriculture and Tree Production Systems held in Baguio City, Philippines in July 1997. The workshop was a follow-up to the first sub-regional training workshop entitled "Integrating Woodfuel Production into Agro-forestry Extension Programme in Southeast Asia (see RWEDP Report 21).

The national workshop was designed to increase awareness about the role of agro-forestry systems in woodfuel production in the Philippines and to enhance the knowledge and capacity of the participating institutions and individuals from the government and non-government sectors in terms of planning and implementing development schemes that integrate trees into the farming systems in order to improve woodfuel production and to generate additional income for tree farmers on private lands.

The report includes: a) an overview of the training workshop; b) details of the training methods used; c) summaries and the full text of the papers presented; d) a summary of the field trip; and e) conclusions and recommendations.

RM 41
90 pages
1998

Sub-regional Training Course on Wood Energy, Women and Health for Southeast Asia

The adverse impact on women's health is one of the most pressing gender-related problems of wood energy use. Emissions from wood stoves in poorly ventilated kitchens are a major cause of women's health problems, but there are various other impacts on health associated with other stages of the woodfuel cycle. Such impacts can be very severe, but this need not be the case. Improved technologies, facilities, tools and operational practices can be applied, which can make the production and use of woodfuels as healthy and safe as any other activity undertaken by women, or men.

In this training course, the health aspects of wood energy were put in the wider context of gender-related development concepts and problems. The report gives an account of this. A great deal of information, which allows a deeper understanding of the problems, background details, cases, and recommendations which may serve as a reference for others, are included. The report also summarises action plans formulated by the participants from RWEDP member-countries in South-East Asia. Their conclusions carry messages for the World Health Organisation, the United Nations Children's Fund, as well as National Energy Departments and other organisations.

The course, held in Kanchanaburi, Thailand, was part of RWEDP's programme on gender aspects of wood energy development. This programme started in 1995 with a policy workshop on Gender and Wood Energy held in Changmai (RWEDP Report 22), and a sub-regional training course on Women in Wood Energy Development for South Asia held in Bangkok (RWEDP Report 24). These events led to the incorporation of gender in other RWEDP training programmes and studies. National workshops on gender aspects of wood energy development are now being prepared.

coming soon

RM 42
1998

RWEDP Publications from the Previous Project Phases

A complete list of RWEDP publications form the previous two phases is presented here. The list also indicates the availability of these publications. Readers can request publications by filling in and sending the request form (on page 26) to RWEDP. Some of these publications will be available from RWEDP internet site.

Field Documents

available

1. Wood Energy Policies and Strategies – Some Issues, By Prof. M. Nurul Islam and edited by the staff of RWEDP, Bangkok, 1987. (52 pages)
2. Wood Energy Bibliography, Bangkok, 1986. (89 Pages)
3. Wood Energy for Rural Industries – Thailand, by S.C. Bhattacharya, Bangkok, 1986. (61 Pages)
4. Wood Energy Systems for Rural and Other Industries – Sri Lanka, by V.R. Nanayakkara, Bangkok, 1986. (88 Pages)
5. Energy Plantations for Marginal and Problematic Lands – Pakistan, by M.J. Sheikh, Bangkok, 1987. (82 Pages)
6. Stove Programmes in Asia – A Status Report, by Biomass Energy Services and Technology, Bangkok, 1988. (64 Pages)
7. The Use of Woodfuels in Rural Industries in Asia and the Pacific Region, by Biomass Energy Services and Technology, Bangkok, 1988. (83 Pages)
8. Planning Forestry Extension Programmes, Report of a Regional Expert Consultation, Bangkok, 1988. (199 Pages) ✓
9. Charcoal in Northeast Thailand, Rapid Rural Appraisal of a Wood-Based, Small-Scale Enterprise, By O.Panya, George W. Lovelace, Prasat Saenchai and Panomsak Promburom, Bangkok, 1988. (61 Pages)
10. Catalogue of Wood Energy Institutions, by S.C. Bhattacharya, Bangkok, 1988. (80 Pages)
11. Wood Based Energy System in Rural Industries and Village Applications – Nepal, by P.N. Suwal, Bangkok, 1988. (84 Pages)
12. Wood Based Energy System in Rural Industries and Village Applications – Philippines, by P.V. Bawagan, Bangkok, 1989. (72 Pages)
13. Wood Based Energy System in Rural Industries and Village Applications – Pakistan, by I.A. Qazi, Bangkok, 1989. (57 Pages)
14. Problems and Potentials of Reforestation of Salt Affected Soils in India, by Dr. J.S.P. Yadav, Bangkok, 1989. (56 Pages) ✓
15. Development of Degraded Village Lands in India, Experiences and Prospects, by N.C. Saxena, Bangkok, 1989. (55 Pages)
16. Problems and Potentials of Reforestation of Salt Affected Soils Sri Lanka, by K. Vivekanandan, Bangkok, 1989. (84 Pages)
17. Biomass Based Energy Systems in Rural Industries and Village Applications – Bangladesh, by M. Eusuf, Bangkok, 1989. (69 Pages)
18. Wood Based Energy System in Rural Industries and Village Applications – India, by J.S. Juneja, Bangkok, 1989. (93 Pages)
19. Wasteland Development for Fuelwood and Other Rural Needs, Report of a Regional Workshop, Bangkok, 1989. (202 Pages)
20. Acacia Nilotica (L.) Willd. Ex Del., Its Production, Management and Utilization – Pakistan, by M.J. Sheikh, Bangkok, 1989. (45 Pages)
21. Dalbergia Sissoo, Roxb., Its Production, Management and Utilization in Pakistan, by M.J. Sheikh, Bangkok, 1989. (79 Pages)
22. Trees and Fuelwood from Non-Forest Lands–Pakistan, by R.W.Hussain, Bangkok, 1990. (59 Pages)
23. Tree and Fuelwood from Non-Forest Lands, A Methodology for Assessment – India, by A.N. Chaturvedi, Bangkok, 1990. (45 Pages) ✓
24. Social Forestry in Integrated Rural Development Planning – Sri Lanka, by M.M. Skutsch, Bangkok, 1990. (30 Pages) ✓
25. Social Forestry in Indonesia, Workshop Report, Bangkok, 1990. (210 Pages) ✓
26. Woodfuel Flows, Rapid Rural Appraisal in Four Asian Countries, Edited by N. Jamieson, Bangkok, 1991. (222 Pages) ✓
27. Oak–Production, Management and Use in the Himalayas, by B.N.Ghildyal, Bangkok, 1991.(46 Pages)
28. Small Scale Multipurpose Tree Production Systems in a Mountainous Region of India, by R.V. Singh, Bangkok, 1991. (67 Pages)

29. Prosopis cineraria (L.) Druce, Its Production, Management and Use – Pakistan, by M. Hafeez, Bangkok, 1991. (60 Pages)
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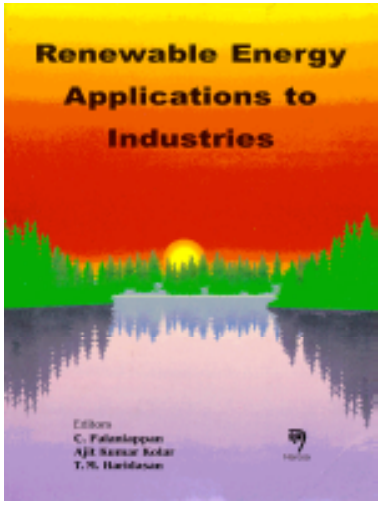
Publication Review

Renewable Energy Applications to Industries: Proceedings of the 2nd International Workshop on Renewable Energy Application to Plantation and Other Industries (REAPOI - 97), April 9-11, 1997, Chennai, India

Following the positive impact of the First International Workshop on Energy Perspectives in the Plantation Industries held in 1993 in Coonoor, India, a second international workshop was organised in 1997. The outcome of the workshop is presented in two documents. The Conclusions and Recommendations as well as a description of the various panel discussions is presented in "A Report: Renewable Energy Application to Plantation and Other Industries. The second publication, reviewed here, gives an overview of the papers presented during the workshop. Some 150 national and international representatives from the plantation industries, researchers, academics, equipment manufacturers and other interested organisations and individuals participated in the meeting which was inaugurated by Shri Ashok Parthasarathi, Secretary of the Ministry of Non-Conventional Energy Sources, India. During the workshop, some 30 papers were presented, subdivided into Theme Papers, Solar Thermal and PV Systems, Biomass Combustion and Gasification Systems, Co-generation, Energy Conservation, Industry Energy Perspectives and Energy Policy and Management. Altogether 7 papers dealt directly with wood and biomass energy use in the plantation industry with emphasis on gasification technologies and options for co-generation. During the workshop lively panel discussions were held on topics ranging from solar energy technology, wood energy and other biomass systems, to energy conservation including co-generation. At the end of the workshop a special panel discussion was held at the M.S. Swaminathan Research Foundation on the Role and Scope of Renewable Energy in the Ninth Plan Period of India.

Copies of both documents are available from Mr. C. Palianappan, General Secretary, Planters Energy Network, Palkanai Nagar, Madurai, India.



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News and Notes

Asia Regional Training on Charcoal Production, Pontianak, Indonesia, 19 February - 10 March 1998

This is one of the five RWEDP regional workshops which aim at introducing wood energy efficient technologies and systems for 5 types of traditional wood and biomass energy using industries. The five types of industries are: brick and roof tile industries; sugar/gur/jaggery making; tobacco curing; timber drying; and lime burning. This training workshop was organised as a joint effort in order to provide practical and comprehensive knowledge, as well as hands-on training on kiln construction and operation.

Expert Consultation on Options for Dendro-Power in Asia, Manila Philippines, 01 - 03 April 1998

This meeting was based on the RWEDP initiated study on Wood Based Power Generation , prepared by P. R. Shukla from the Indian Institute of Management and Ahmedabad and N. P. Singh from the Ministry of Non-Conventional Energy Sources, India. The discussions covered economic, technical and institutional aspects of potential applications of dendro-power within the Asian region. The objectives of the meeting were to review the state-of-the-art in dendro power generation, to identify niches for applications in Asia, and to advise on project preparation in Asia.

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National Training Course on Woodfuel Production and Marketing, Thimphu, Bhutan 20 - 22 April 1998

This course was held in collaboration with the Forestry Services Division, Ministry of Agriculture of Bhutan. This activity was the first country level training organised by RWEDP in its third phase in Bhutan. The course was successful not only in bringing together individuals from relevant institutions to present, discuss and review the wood energy situation in the country, but also to identify the critical issues that are currently acting as constraints or problems to wood energy development, including resources management. It is worth noting that this course has been held or will be held in ten RWEDP member countries.

National Training on Improved Stove Selection and Dissemination, Sylhet, Bangladesh 25 April - 05 May 1998

This workshop was designed to disseminate technical knowledge to the participants in order to help them to address and respond to user's considerations, needs, preferences, availabillity of biomass fuels, etc. A number of skills were transferred to trainees through the workshop. They include evaluation of a particular stove design, adapting and/or selecting stove design, construction techniques for a selected number of stove designs, determining an appropriate dissemination strategy for the improved stove, incorporating gender analysis into stove design, selection and dissemination, and being able to monitor and troubleshoot a stove programme.

Events

Event, description (info)	Venue, date
Biomass for Energy and Industry 10th European Conference and Technology Exhibition Organised by the Central Agrarian Raw Material Marketing and Development Network. (CARMEN)	Congress Centrum Würzburg, Germany 8-11 June 1998
Regional Conference on Gender and Technology in Asia Organised by the Gender and Development Programme/Asian Institute of Technology and the Gender, Science and Technology Association Asia .(AIT)	AIT, Bangkok, Thailand 4-7 August 1998
International Training Course on Practical Technology, Planning, and Management of Integrated Energy Systems Aimed at strengthening international cooperation on the formulation and implementation of China`s national science and technology R & D plans, this international training course has been conducted under the auspices of the State Science and Technology Commission of China (SSTCC) on a yearly base since 1989. It is expected that through such training courses, the achievements of integrated energy system research can be introduced to participants. Thus, experiences and new techniques will be exchanged among developing countries. The course consists of four parts: lectures, practiced exercises and technical visit, discussion and exchange and evaluation. (SAU)	Shenyang, China 26 August-14 September 1998
Postgraduate Programme Renewable Energy This one-year postgraduate study is designed for scientists and engineers who intend to work in Third World countries to plan energy supply systems based on renewable energy sources, such as solar and wind energy, biomass, hydro power, etc. Successful completion of the study will be acknowledged by conferment of the official German Degree, Master of Science. (CVOUO)	Oldenburg, Germany October 1998- September 1999
International Course on Local Level Management of Trees and Forests for Sustainable Land Use The theme of the course in 1998 will be how to make community forestry operate under conditions of increased pressure on forest resources, as seen from the policy and the practice perspective. The course is designed for GO and NGO staff in policy/planning or in management positions responsible for rural development programmes at (sub)national level. (IAC)	Wageningen, the Netherlans 20 September-12 December 1998
5th International Course on Fodder Tree Legumes - Multipurpose Species for Agriculture The aim of the course is to present participants with the very latest information on the potential for increasing the use of tree legumes in agriculture systems, to review their environmental adaptations and to examine their role in animal production, soil fertility improvement and fuelwood production. (UOQ)	Queensland, Australia 2 November-11 December 1998

CARMEN Central Agrarian Raw Material Marketing and Development Network, Technologiepark 13, D-97222 Rimpar/ Würzburg, Germany. (+49-9365-806 933, 2 +49-9365-806 910

AIT AIT-GASAT Asia Conference, Gender and Development Program, School of Environment Resources and Development, Asian Institute of Technology, P.O. Box 4, Klong Luang, Pathumthani, Thailand 12120 ☎ +66-2-524 5673, 524 5668; 🖹 +66-2-524 6166; 💻 gendev@ait.ac.th

SAU Foreign Affairs Office, Shenyang Agricultural University, 120 Dongling Road, Shenyang 110161, P. R. China ☎ +86-24-842 1266, 842 1031; 🖹 +86-24-841 7416.

CVOUO PPRE, Carl von Ossietzky University of Oldenburg, Faculty of Physics, Dept of Energy and Semi-conductor Research, PO box 2503, D-26111 Oldenburg/Germany. ☎ +49-441-798 3544; 🖹 +49-441-798 3326; 💻 edu@ehf.uni-oldenburg.de; http://www.physik.uni-oldenburg.de/ehf/.

IAC International Agricultural Centre, P.O. Box 88, 6700 AB Wageningen, the Netherlands, ☎ +31-317-440 111; 🖹 +31-317-418 552; 💻 IAC@IAC.AGRO.NL

UOQ Course Secretariat, FODDER TREE LEGUMES, Department of Agriculture, The University of Queensland, Queensland 4072, Austrialia. ☎ +61-7-3365 2062; 🖹 +61-7-3365 1188; 💻 r.gutteridge@mailbox.uq.edu.au

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What's New?

Growing Demand for Wood Energy

Wood energy (fuelwood and charcoal) is, and will remain, an important source of energy in South and Southeast Asia. In most countries between 20% and 80% of energy demand is met by wood. The use of woodfuels is still increasing, though not as fast as the use of fossil fuels.

Economic Importance

Although woodfuels are often considered 'non-commercial', they are widely traded. Particularly in urban areas, where woodfuels are most relevant, markets for fuelwood and charcoal are thriving. Many people, both in urban and rural areas, earn their main income from the woodfuel business. This can involve growing, harvesting, processing, trading, transporting or retailing.

A Sustainable and Versatile Fuel

Most of the woodfuel originates from non-forest land and is managed sustainably. The main uses are in the domestic, commercial and industrial sectors. Applications can be traditional or modern, or an intermediate type.

Issues in Wood Energy

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Supply

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