SUSTAINABLE ENERGY NEWS

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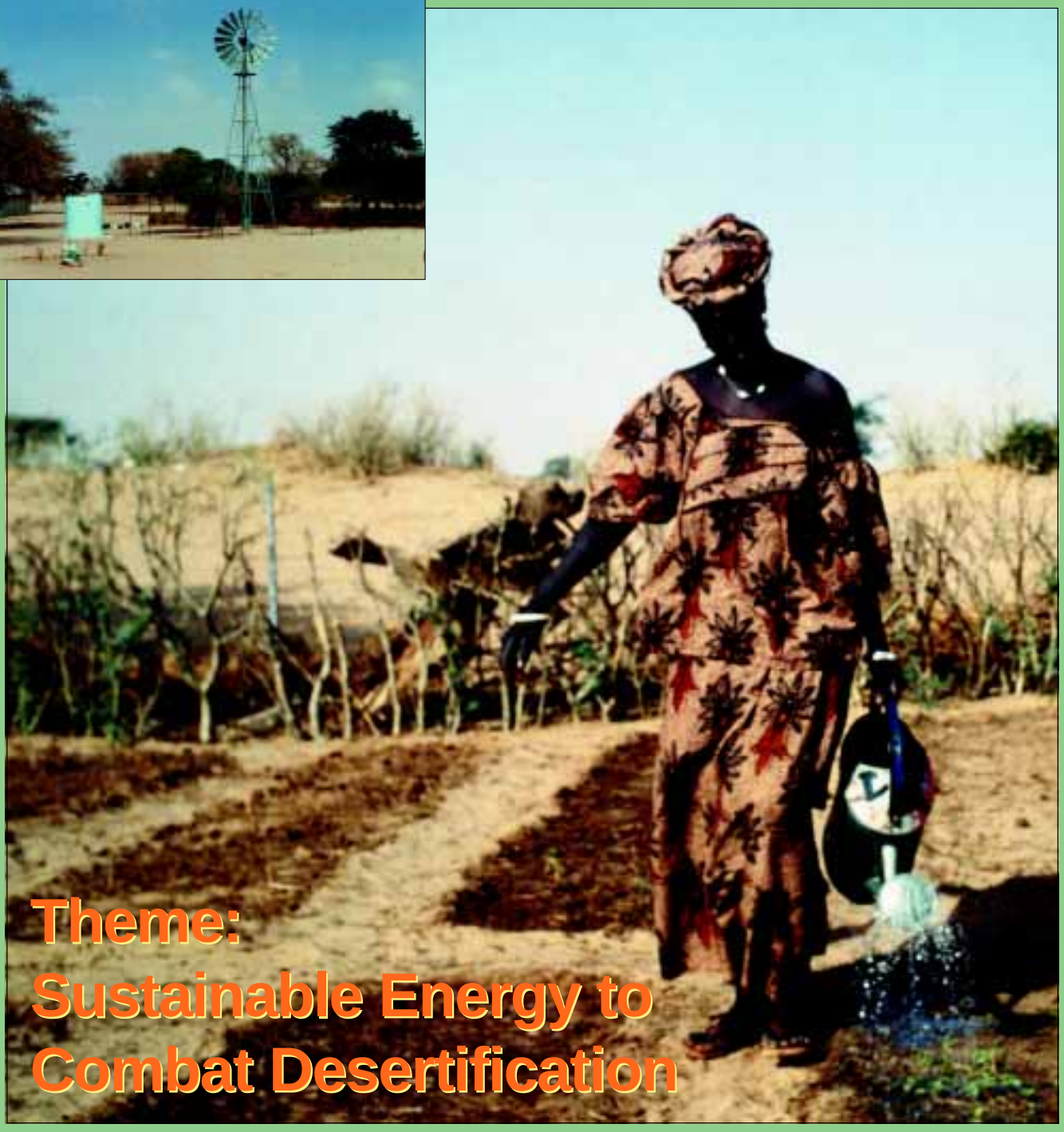

Theme: Sustainable Energy to Combat Desertification

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International Network for Sustainable Energy (INFORSE) *is a worldwide NGO network formed at the Global Forum in Rio de Janeiro, Brazil, June 1992.*

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Photo on the front page:
Woman watering with animal dung. Wind pump.
See theme on pages 5-11.
Photos: ENDA-Energie, Senegal.

Sustainable Energy to Combat Desertification

"Improved cook stoves or desert? You choose!"
From exhibition in Nigeria.
Photo: Ide Djermakoyo, ONDPH/Dieudonné Goudou, EDER

Twenty five percent (25%) of the global population live in dry, semi-dry, and sub-humid areas, confronted with the problems of desertification and drought effects. 40% of the population in Africa, 39% in Asia and 30% in South America are directly affected.

Not directly affected areas get the effects of these problems through population movements such as migrations and flows of refugees in search of better living conditions. That makes the phenomenon worldwide and justifies the implementation of the UN Convention to Combat Desertification. The Convention is intended to lead a struggle against the phenomenon and, more globally, against poverty, on a worldwide scale.

Thus, since the adoption of this Convention in 1994, African countries have started a process of elaboration and implementation of strategies and policies to combat desertification and drought effects. These strategies and policies are developed within the framework of action programs against desertification that the affected countries have promised to conduct and expand nationally, sub-regionally, and regionally.

Sustainable exploitation of energy potentials and an increase in the worth of local energy resources are priorities of these action programs in Africa, as is considering the environmental consequences of energy use. In fact, the energy problems of African countries of dry areas are characterized by the predominance of the use of wood for fuel. Wood fuel accounts for more than 80% of the final consumption of energy. It contributes to deforestation, soil erosion, and, more globally, to poverty. In the meantime, the consumption level per capita in Africa remains the lowest in the world, 0.4 toe/ inhabitant. Hence, the necessity of action in order to increase it and to support adequate economic and social development.

This brings us to another dilemma. How do we increase energy consumption to support development concerns without damaging the environment? The answer to this question explains the interest that the Convention gives to renewable-energy sources as means of fighting desertification. To this new approach, we can add the interest that the partners to development, including the World Bank, give to the implementation of actions based on successful experiences, "the best practices" in the countries involved.

With this in mind, the International Network for Sustainable Energy (INFORSE), in collaboration with ENDA (INFORSE Western Africa Coordinator), set up a process to collect examples of good practices in the field of renewable energy and of eco-technology dealing with the fight against desertification. Thus, many experiences are presented in the enclosed theme from case studies in Burkina Faso, Senegal and Mauritania. They deal with wind technology for water pumping, with solar drying of agricultural products, as well as with improved stoves and solar cookers that reduce or eliminate the need to use wood as fuel.

Sécou Sarr
ENDA, INFORSE-Western Africa Coordinator

INFORSE Lobbies to Influence the UN CSD9 Process

Before the world's countries meet to discuss sustainable energy at the UN Commission for Sustainable Development's 9th Session (CSD9), May-June 2001, an expert group will meet three times to set the agenda. The first meeting will be in March 6-10, 2000 in New York. It will be an open-ended working group with country experts and access for NGOs. After some debate, the Northern Co-Chairman of the expert group has been elected. It is the Austrian Irene Freudeschuss-Reichl. The Southern Co-Chair is the Iranian Mohammad Reza Salamat.

INFORSE Pushes Progressive Targets

From INFORSE, we plan to be present at the CSD9 Expert Committee Meetings and use the opportunities to advocate for truly sustainable development in cooperation with other NGOs and progressive countries. INFORSE will propose that the countries use CSD9 to agree upon quantitative targets for renewable energy sufficient to achieve a sustainable development. The targets should be followed by action plans to realise them.

We also recommend the creation of an international institution for sustainable energy and strengthening of existing institutions' sustainable energy activities.

Call for NGO Comments

INFORSE will work to influence the World Energy Assessment (WEA), a major input to CSD9 by two UN bodies and the business-based World Energy Council, to be more supportive of sustainable development. We will use the opportunities as a NGO-network to influence the second draft that is open for comments now. As far as time allows, we will involve interested INFORSE members in this activity via e-mail. We propose that as many NGOs as possible get involved in this, directly or via, e.g., INFORSE.

Contact: INFORSE (see page No. 2) or
More information about the WEA process and draft report is available on-line at: www.undp.org/seed/eap/activities/.

World Wind Campaign

"Wind Force 10" - a new report on how 10% of the world electricity supply could be provided from wind energy was released on October 5, 1999. The report is the result of a cooperation between Forum for Energy and Development (INFORSE Secretariat), Greenpeace International, the European Wind Energy Association (EWEA), BTM Consult in Denmark.

"Wind Force 10 - A Blueprint to Achieve 10% of the World's Electricity from Wind Power by 2020", 50 pages, ISBN 1 871532 248, 1999. Published by EWEA, FED, Greenpeace. The report is available from the INFORSE Secretariat (See address page No. 2) .

Regional Wind Campaigns

Following the '10% World Wind Campaign', INFORSE-Europe and INFORSE Latin America are launching regional wind campaigns. For Western Europe, the goal is to have 12% of the electricity demand covered by wind by 2020, while for Ukraine, the goal is 11%. For the other areas covered by the campaign, Russia and Cono Sur in Latin America, the goals are still to be decided. For each area, a report is made, with potentials for wind energy, proposed goal, and assessments of effects on economy, employment, and environment. Further, policy recommendations are made for the areas and as many concerned NGOs as possible are consulted. As a final kick-off for the campaigns, public presentations are made and plans are made for the campaigns in cooperation with concerned NGOs.

Contact to the Regional Wind Campaigns:
- INFORSE-Europe, att Gunnar B. Olesen, OVE, Gl Kirkevej 56, 8530 Hjortshøj, Denmark. Ph: +45-86227000, fax: +45-86227096, e-mail: ove@inforse.org or ove@inforse.dk.
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INFORSE Coordinators' Meeting

INFORSE Coordinators: (from left to right) Sécou Sarr (ENDA/W.Africa), Lugard Majoro (FWD/E.Africa), Decharut Sukkumnoed, Suphakij Nuntavorakarn (SENT/ E.Asia.), Emil Bedi (FAE/Europe), Roque Pedace(Rejima/ L. America), Raymond Myles (INSEDA/L. America), Michael Kvetny (Secr.), Johanne Gabel (Secr.), Gunnar Olesen (OVE/Europe), Hanne Graulund (FED-Board), Susanne Backer (Secr.)

On October 18-21, 1999, the INFORSE Regional Coordinators met for the 5th time. The meeting took place at the Folkecenter for Renewable Energy in Denmark. The Coordinators set the focus for the coming years' INFORSE activities:

- NGO activities to influence the global agenda: the UN Climate Convention, the UN Convention to Combat Desertification and CSD9 (see p.3).
- Help increase global awareness of sustainable energy with on-line database, internet-based education, and many other activities.
- Strengthen the network with increased regional activities, to support global activities, and to increase cooperation among INFORSE members.
- Produce a new charter for INFORSE, and use it to develop a broad consensus among Sustainable Energy NGOs. The Charter shall be approved by all core members in the year 2000.
- Use South-South-North fund with seed funding for INFORSE members to start up cooperative projects.

All core members will receive more information on the results of the meeting, and Sustainable Energy News will cover the resulting activities.

Sustainable Hydro?

The World Commission on Dams (WCD) is an international commission that will undertake a global review of the developmental effectiveness of large dams. It will develop internationally acceptable criteria and guidelines for future decision-making on dams. It is an independent commission with NGO participation. The WCD was established in May 1998 and is due to finalise its main report in August 2000. Its activities are the largest effort thus far to collect knowledge and to establish guidelines for sustainable development with dams. The WCD offers a large number of studies of dams, results of regional consultations, and a draft report. All of this is available from the WCD website. The last major event in the WCD process in this year is the regional consultation for Africa/Middle East, December 8-9, 1999 in Cairo.

Information: WCD, 5th floor, Hycastle House, 58 Loop Street, PO Box 16002, Vlaeberg, Cape Town, South Africa. Ph: +27 214264000, fax: +27 214260036, e-mail:info@dams.org, www.dams.org.

Earth Day April 22, 2000

The celebration of the Earth Day started 30 years ago in the USA. Now, a large number of US NGOs plan to make 'Earth Day 2000' the largest environmental event so far. They have chosen sustainable energy as the central theme. They invite all NGOs to join the activities, and to hold their own local "Earth Day" activities, in April next year.

A number of INFORSE organisations will use the opportunity to raise public awareness of sustainable energy.

The usual date of Earth Day is April 22, but many countries celebrate Easter on that day. The Earth Day Network proposes that Earth Day activities be held during the week preceding April 22, if that would be more convenient.

Information on INFORSE organisations' Earth Day activities: contact the INFORSE Regional Coordinators, or see http://www.inforse.org.
More info: See at the Events' List.

HELIO, a French-based international group of energy experts which is member of INFORSE, invites for cooperation on a Global Energy Observatory (GEO) for 'Earth Day 2000'.

Sustainable Energy News readers are invited to volunteer to provide assessments of progress made by national energy policies in promoting sustainable and equitable development. A regional synthesis of the national assessments will then be made to facilitate the preparation of a world report to be issued for 'Earth Day 2000'.

If you want to join this effort, please contact:
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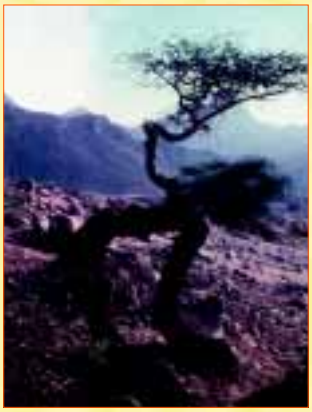
Ph: +33-1-4224-5148
Fax: +33-1-4224-8633,
e-mail: helio@globenet.org,
http://www.globenet.org/helio.



Theme: Sustainable Energy to Combat Desertification

Sustainable Energy & The Convention to Combat Desertification

On November 16-25, 1999, the countries of the world meet in Recife, Brazil for the third Conference of Parties (COP) for the Convention to Combat Desertification (UNCCD).
In INFORSE, we hope that the countries will use this opportunity to take a big step ahead in the implementation of the Convention, e.g. by using the provisions in the Convention for sustainable energy, inspired by the practical examples shown in this publication and elsewhere.

The main provisions for sustainable energy in the Convention are:

Article 10, National Action Programs:
All countries affected by desertification will make national action programs with practical measures necessary to combat dersertification and mitigate the effects of drought (from art. 4.1).
.....national action programmes include, as appropriate, inter alia, measures in some or all of the following priority fields.....:

- *promotion of alternative livelihoods and improvement of national economic environments.....;*
- *demographic dynamics;*
- *sustainable management of natural resources;*
- *sustainable agricultural practices;*
- *development and efficient use of various energy sources;*
- *institutional and legal frameworks;*
- *strengthening of capabilities for assessment and systematic observation,..... (art. 4.4)*

Article 19; Capacity Building, Education, and Public Awareness
The Parties shall promote, as appropriate, capacity building:

- *By providing appropriate training and technology in the use of alternative energy sources, particularly renewable energy resources, aimed particularly at reducing dependence on wood for fuel; (art. 19.1f)*

Article 12; International Cooperation
Because renewable energy and efficient use of energy are included as measures promoted by the Convention, a number of more general provisions also apply for these measures, e.g.:

- *the countries should co-operate on technology transfer as well as in scientific research, development, information collection and dissemination, and financial resources.* (from art. 12)

Information about UNCCD, and COP3 in Recife, Brazil: UNCCD Secretariat, Haus Carstenjen, Martin Luther King Strasse 8, 53175 Bonn, Germany. Ph:+49-228-815 2800, fax:+49-228 2898/99 e-mail: secretariat@unccd.org, http//www.unccd.de

or ENDA, see colophon on this page.

INFORSE and Combating Desertification

The International Network for Sustainable Energy is a global network of independent NGOs working for sustainable energy solutions (renewable energy and energy conservation) to protect the environment and to reduce poverty. INFORSE lobbies the international agenda including the Convention to Combat Desertification. The aim of this is to make the countries optimise their use of sustainable energy to combat desertification and to involve NGOs in this. To involve INFORSE members and other NGOs, the network can initiate and support courses, workshops, information campaigns, and demonstration projects.

For INFORSE's activities on sustainable energy to combat desertification, contact: INFORSE West Africa/ENDA-Energie or the INFORSE Secretariat. (see address on this page & p. 2).

This Theme is also available in French.

This Theme is edited by: Secou Sarr, ENDA-Energie, Senegal, INFORSE West Africa Coordinator, and the editors of Sustainable Energy News.

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Renewable Energy, Water Supply Problems and Fight against Desertification:

An integrated project in Senegal

Like people in other dry areas of sub-Saharan Africa, the Senegalese population must overcome obstacles to obtain enough water and energy. These problems are more acute in rural zones because of the difficulties in setting up hydraulic infrastructures and of the lack of income to pay for access to commercial or conventional energy. Experience is gained from several projects that have addressed isolated problems. Usually, these projects either focus on the delivery of water via various technologies of pumping or they are energy projects aiming to provide electricity or to further the rational use of energy e.g., by distributing more efficient stoves. In addition, it is essential that the projects are based on the expression of the affected population's basic needs.

The approach used by the NGO World Vision (WV) seems very beneficial for several reasons, e.g.:

- integration of several measures to combat desertification;
- promotion of the use of renewable energy technologies such as wind pumps for water;
- implementation of small projects which produce income likely to help reduce poverty;
- support of the communities involved.

Location of Areas

The project covers more than 100 villages with more than 80,000 inhabitants, in the north-center of the peanut-producing area, the Louga region. This area is characterized by a large deterioration of the environment, resulting from repeated peanut and millet monoculture and from overgrazing of pastures, droughts, and falling level of groundwater.

The intervention of the NGO WV in this area has been guided by the results of studies realized in 1984 as part of a collaboration with the Senegalese government and research institutes to determine the principal constraints of the exploitation of the socio-economical and hydro-geological potential of the area.

These studies revealed a certain number of challenges that must be met to relieve poverty in these communities. These challenges are to secure water supply, food safety, health, and reliable power supplies.

Technologies to Water Supply

As in most of Senegal, the solar radiation in Louga is regular with an average radiation of 2,000 kWh/year/m^2, which is favorable for the use of photovoltaic solar energy. In addition, the fact that a good part of the area is along the Atlantic coastline with high wind speeds bodes well for exploitation of wind energy.

On this basis, about 50 wells have been provided with mechanical pumping devices, including 7 solar pumps, 30 wind pumps, and manual pumps.

The multibladed wind pumps have been set up near the wells with a static water level of less than 35 m below the surface. For deeper wells, we use photovoltaic solar devices. In all of these cases, the flows run from 2 to 5 m^3 per hour, which turns out to be enough to cover water supply for domestic needs and for livestock. Besides, the availability of the water also allows the population to irrigate small commercial garden fields introduced on an experimental basis to initiate women into activities producing income.

Manual pumps, which have a low flow, have not been able to provide enough surplus water for commercial gardening.

Strategy of the Program

The program approach is research based and makes use of the interrelations between energy, water, the impoverishment of soils, degradation of the environment, poverty, health, nutrition, insecurity of food supplies, etc. It emphasizes a systemic approach that tries:

- to introduce renewable-energy technologies;
- to enhance communal capacities for appropriation of technologies through the implementation of committees to manage drilling projects;
- to seek popular support for the project, while encouraging the development of gardening for markets and of agro-forestry on family-owned lands (1.5 ha / family);
- to identify a local and international partnership to support the local initiatives technically and financially.

Thus the **water-supply** part of the program constitutes the entry into the region and is used as an incentive for other income-generation activities as well as for protection of the environment.

In fact, these income-generating activities together form **supporting**

Wind pump in Senegal.

measures for the hydraulic aspect of the program. It's a matter of distribution of better stoves, tokers (small agricultural family enterprises), and solar drying.

Dissemination of Improved Stoves

This part of the initiative consists in increase of the population's awareness in general, and women in particular, on the emergency and the necessity of using better stoves to save firewood and protect the natural resources of the land. Women are then trained in the production of "ban aak suuf" stoves, made from local materials: black clay from ponds and backwaters (preferably), red clay from termite nests, and recovery iron plates. The slogan "a canister of water and a better stove for every household" has had a significant impact in the promotion of the "ban aak suuf". In the Maka Sarr village, all households use improved stoves and often some butane gas.

Increased Value of Endogenous Practices and Knowledge

The objective of this initiative, beyond the introduction of the manioc culture (private income culture) and the fruit tree, is to induce the farmer to enclose his field in order to protect it from stray animals and to improve local farming practices. So, it is a matter of progressive application of better practices in all the territory of small family agro-forestry plantings encompassing thousands of protected young plantings of "acacia albida" to regenerate the soils.

The soils are fertilized with cow manure. Every family may use a surface area of 1.5 hectares. Each model family is given three cows as a "revolving loan" refundable in a year. The three bovines produce 16 kilos of humid dung per day that are used either in the manufacture of better stoves, as manure for gardens or fields, or as dry combustibles. The fact that one may house bovines in sheds also opens some perspectives to the biogas development.

Promotion of Solar Dryer

The use of this traditional technology of solar drying in the open air is very widespread in the rural region as a method of preserving crops (cereals, vegetables, and straw).

Environmental Impacts

The operation of the solar and wind pumps is done without any risk for the environment. Also, considering their current costs and their long lifetimes, they are a sustainable source for the water supply, therefore, they facilitate the implementation of commercial gardening, feeding livestock, and agro-forestry projects. Thus, many villages can have small islands of greenery due to the installation of solar or wind pumps.

The improved stoves permit savings of more than 66% of the amount of firewood, reducing the pressure on the local vegetation. As a local woman stated, "Stoves are so efficient that the need in firewood for cooking is reduced to a great extent. All we have to do is to use some branches and stems for cooking a whole meal. This means that the practice of the destruction of whole trees to obtain good pieces of firewood are from now on replaced by the practice of pruning. Therefore, there is a rapid regeneration of our forest, as we can see it."

Socio-economic Impacts

To combine the initiatives of commercial gardening and forestry, the project wanted to use wind and solar pumps. The availability of water, at prices varying between 100 and 400 F.CFA (1-4 FF) per month per household, permits the villagers to do commercial garden activities in an intense and varied way and permits them to create nursery gardens for the reforestation needs of their villages. In some villages, orchards are developed using water supplied from the wind pumps.

The project has permitted the introduction of new crops, notably potatoes, which is a further source of food and incomes for the farmers during the dry season, when there is little income from rain-fed agriculture. The combination of the enclosures fenced with hedges and the new gardening techniques leads gradually to a system of intensive agriculture allowing to extend the fallow period of the land and the assisted regeneration.

The training of communities' volunteers as bush technicians and pump operators has had a significant social impact allowing them to sustain a living on their land.

The "ban aak suuf" stove has considerably reduced the work of women and children, in particular of young girls, concerning the firewood collection duty.

Perspectives

In spite of the relative constraints because of the lack of knowledge on the local level, we find that following an integrated approach, the use of renewable energy technologies present a wide potential of sustainable development. In fact, by associating social programs (improvement of life conditions, fight against desertification) with activities of environment protection, we get the population's support to the project. The aspects of participation and partnership, so much stressed in the Convention to Combat Desertification, are very relevant for this.

Woman watering with animal dung.

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Renewable-Energy Technologies and the Struggle Against Poverty:

Solar Dryers in Burkina Faso

A.B.A.C-GERES Solar Dryer

In West Africa, the first steps towards improving drying technologies were introduced in the early years of the 1980's, but the first solar dryer was launched on the market in 1985 by the Burkinabe Institute.

Subsequently, other organisations such as ABAC-GERES (Bourkinabe Association of Community Action – Environment and Renewable Energy Group) joined forces to implement and promote solar dryers. In this article, we present the activities undertaken by ABAC-GERES, which, contrary to other initiatives, introduced a distribution strategy that takes into account organisational aspects from the time the technology was conceived to the end of the project. In 1992, the NGO GERES, based in France, together with ABAC, lent its support to the emergence of improved drying technology in Burkina Faso. ABAC-GERES' motivation was dictated by the following observation:

In less than 10 years in Burkina Faso, annual commercial gardening production tripled to 130,000 tons in 1992/1993. Rapidly, producers were faced with market saturation linked to concentration of production in space and time, due to lack of preservation means and transport infrastructure. This resulted in price drops, surplus sales, and increased losses. Losses alone were evaluated at 20% of the production.

As a result, the above NGO decided to take action in terms of preservation capacities, thereby gearing its efforts towards the promotion of solar drying. Taking into account that the technical approach in its strictest form has only rarely allowed the creation of organised and profitable production channels, it focused on creating new activities for women, introducing semi-industrial units to break into European markets. It also took into consideration socio-economic and cultural aspects, which will, in turn, facilitate the development of the channel.

Strategy

- Socio-economic Aspects

Introduction of the program to its beneficiaries.

It is noted that, individually, women generally do not want to take risks to invest in any activity, whatever its complexion, a factor inhibiting their entrepreneurial capacity. To counter this constraint, ABAC-GERES has decided to intervene through women's groups. Therefore, investment and risk are shared between members. The project affords an advisory support; technical training in terms of management and marketing. This is more often in collaboration with supporting structures that are already launched in the field. Such partnership not only helps partners to apprehend the market very swiftly, but also helps to develop synergies between participants. These measures contribute to action taken on factors that could influence the viability of the solar drying activity: markets, raw materials, climate, and the localisation of solar drying activity (high production zones).

Transfer of Knowledge

Dissemination of appropriate drying units requires dissemination of knowledge to the users. The operation of dryers is complex because a large number of factors influence its operation. Alongside women groups, the project has implemented training modules and didactic information tools.

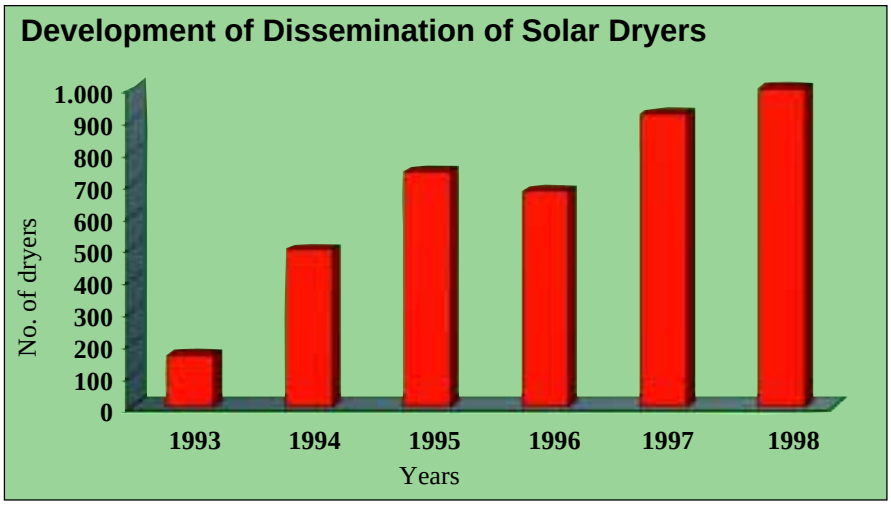
Marketing

In Burkina Faso, dry vegetables are widely used and sold by the bag in bulk in rural and urban markets. They are considered to be "bush" products of mediocre and heterogeneous quality. In the framework of the project, this perception is countered by the adoption of a strategy to increase the value of dry vegetables through a marketing system that uses information of market demands and distribution channels.

- Technical Aspects

The prototype of drying units circulated by this project is the shellfish dryer with the following characteristics:

- adapted to individual use and popular with women,
- reliable, robust, and easy to clean,
- financially reasonable for a rural family.



Project Results

From 1993 to 1998, the project distributed 4,000 dryers. Two thirds were bought by women groups in rural areas, the remaining were sold to individual women and to institutions. The graphic on page 8 gives us an indication of the level of distribution of dryers between 1993 and 1998. The average increase of distribution is estimated at 40% per year.

The potential production by dryers in stock is today more than 100 tons of fruit, vegetables, and dried condiments in an agricultural season of 4 to 6 months, depending on the regions. In 1997, the value added to the level of production was estimated to 50 million F.CFA (500,000 FF) for a turnover of 150 million. For the same year, craftsmen benefited from a turnover of 40 million F.CFA (400,000 FF).

Impact

The promotion of solar dryers contributes to agricultural development by creating new prospects in the internal and external markets for local production. On the other hand, in periods of food shortage, it contributes to a food security of the population by catering for a balanced diet combining fresh vegetables from the market, own vegetables, and dried fruits.

From a macro-economic perspective, it remains highly profitable due to the added value created by the development of the production channel. Craftsmen experienced a rise in their activity. Significant profits were earned by the producers in women groups as well as by the distributors. Thus the activity contributes to the fight against poverty.

More information: ABAC-GERES
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IBE Solar Dryer

Dissemination of Eco-technology in Burkina Faso:

Improved stoves and hayboxes

Picture 2: Improved stove "Burkido"

Like other countries in the Sahel, Burkina is highly dependent on wood fuel to satisfy its energy needs. Wood contributes to almost 85% of the final energy consumption of homes. It is especially used for domestic use (preparation of meals) and in craft industries.

The heavy consumption of wood has created an imbalance between supply and demand of firewood. This results in an environmental and socio-economic crisis both in the rural and in the urban areas. Within the framework of rational use of energy, Burkina Faso has undertaken several actions relating to the dissemination of improved stove technologies and of hayboxes.

Improved Stoves

Several institutions have contributed to the dissemination of improved stove technologies in Burkina. For government institutions, financial partners, and NGOs alike [1], the promotion of effective technologies for the combustion of wood and coal has always been a major developmental concern.

The United Nations Office to Combat Desertification and Drought (UNSO) is a source of reference due to its scope and the intense involvement of the state and other partners, mainly NGOs. The domestic sector (rural and urban homes) was the first target, followed by the craft industry; small breweries producing beer from millet; restaurants; etc.

Domestic Stoves

The Burkinabe Energy Institute (IBE) designed and produced several models of stoves: an improved "three-stone" model; three metallic models, one called "Ouaga metallique" that burns wood, another called "Burkina Mixed", which can be fuelled either with wood or with charcoal; and, more recently, a multi-plate stove (supporting several different types of pots) as well as a ceramic stove. (see Table, which compares the different type of stoves)

Picture 1: Three-stone traditional stove

Craft Industry Stoves

The preparation of the traditional beer "le dolo" is widespread in Burkina Faso. In the town of Ouaga, one count showed 500 producers of the above beer (craft industrial breweries) in 1989. "Dolo" is prepared in very big containers or in aluminium pots on the three-stone traditional stove (see picture 1). A model of improved stove called "Burkido" has been introduced by the producers of "dolo" (see picture 2). Compared to the traditional stove, a "Burkido" saves up to 7.8 tons of wood per year.

Hayboxes

In 1991, the IBE came up with a haybox called "Biatoré" (in Mooré language). It helps to complete the preparation of some dishes and keeps them warm hours after the food is cooked. It is a design which permits the use of local heat insulation such as the wool of Kapock. The interior of the haybox is an insulating material which limits the loss of heat from the pot and its contents. The heat preserved helps to cook the meal and/or keeps the food warm for several hours. The women's cooperative of Tanghuin is in charge of its dissemination. But it is also spread via private initiatives. Until now, it is disseminated in the two main towns of Burkina: Ouagadougou and Bobo Dioulasso.

There are three models of the haybox "Bitaoré": the basket model, the metallic model, and the wooden model. The basket model is the most popular because

[1] *FAO; UNSO; and Swiss, Dutch, German, French cooperation.*

Table: TECHNICAL AND ECONOMIC ASPECTS OF IMPROVED STOVES

TYPE OF STOVES	MATERIAL USED	THERMAL EFFICIENCY % (1)	SAVING OF FUEL % (2)	SALE PRICE F.CFA (FF)	DISSEMINATION
Ouaga métallique	New Metal Scrap Metal	28	30	1000 - 6000 (10-60 FF)	Sold by craftsmen and outlets.
Burkina mixte	New Metal Scrap Metal	wood = 30 coal = 35	32 36	1400 - 3000 (14-30 FF)	Sold by craftsmen and outlets.
Multi-marmites	Scrap Metal	27	25	2500 - 3500 (25-35 FF)	Sold by craftsmen and outlets.
Ceramic model	Clay burned at high temperature	30	27	1500 (15 FF)	Sold by potters or from outlets.
3-stone improved	Clay, cow dung, straw	25		-	Made by users after training.

(1) Test results of IBE. *(2) ESMAP Project.*

Drawing: Haybox "Biatoré". The 3 different models.

Picture 3: "Ouaga metallique" stove

it is cost-effective. It costs between 7,000 and 12,000 F.CFA (70-120 FF). Energy savings with the basket model depends on the dish, and varies from 12% to 60%.

Results

A total number of 158,807 improved three-stone stoves have been built for domestic use, with an annual growth in installations of 11%. Beside this, more than 500 stoves were built for "dolo" production ("dolo" stoves). More than 1,500 villages representing 1,342,038 inhabitants are directly linked with the project.
From 1990 to 1992, 44,142 m^3 of wood were saved, equal to wood from 7,063 ha of unexplored natural areas.
From 1990-1992, 19,026 women and forestry farmers were trained in the construction of improved stoves, 49 tinsmiths craftsmen were trained for the manufacture of improved metallic stoves, 168 masons for the "dolo" stoves, and 194 potters for the ceramic stoves.

Concerning the dissemination of the haybox "Biatoré", where a large number of private players are designated by IBE for the dissemination, it is difficult to estimate the sales' figures. According to the women's co-operative, 3-4,000 units have been disseminated in the town of Ouagadougou.

The results are the outcome of a strategy based on a constant search for compromises between the socio-economic aspects, (culinary habits of housewives, knowledge of the market, equipment costs) and technical considerations, (simplifying of manufacturing, increase the use of local equipment), and subsequently, the search for synergies between different players including the users.

Impacts

-Environmental Impacts
A study conducted by ESMAP in 1988 revealed that the wood consumption per person and per day in a town such as Ougadougou is 0.66 kg. An estimate made in 1996, shows a total number of more than one million improved stoves. Each time a Burkina housewife uses an improved stove or a haybox, her wood consumption is reduced by 30-50%. Supposing that 500,000 improved stoves (for domestic use) and 500 "dolo" stoves are operational today, we can estimate a saving of 117,000 tons of wood which corresponds to 26,000 ha of forests saved.

In short, we can say that the dissemination of energy-efficient technologies contributes to the preservation of wood resources as well as to carbon sequestration and the reduction of green house gases in the atmosphere. The production of all of these technologies is done by using local material and equipment. For instance, the heat insulation used for the manufacture of "Bitatoré" is produced from a tree, "Céiba pendra" (cheese maker), which is found almost everywhere in Africa. A massive dissemination of this technology would urge the population to preserve this particular tree and even start planting it.

- Impacts on Craftsmen's Income
The manufacturing of improved stoves allowed the manufacturers to raise their income by earning a profit of about 5,50 FF per stoves.

Prospects

Dissemination of technologies for rational use of energy, in the way we have demonstrated, leads to a more successful fight against the environmental crisis. However, the activities are related to the availability of external funds securing the continuation of the programs. That is why the momentum of the activities depends on the renewed financial support.

In this way, in the framework of the fight against desertification, a combination of external funds and national funds should be mobilised to help kick start programs of dissemination of technologies with external support and subsequently relying on national funds. It is in this perspective that national funds, supporting the fight against desertification, are increasingly important since they allow the continuation of activities that were started within the framework of projects and/or programs initiated with external funds.

More information: Gabriel Yameogo,
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Wind-Pump Project in Mauritania:
An example of transfer of technology

Mauritania is a sahelian country , with an area surface of 1,030,000 Km^2, and a population of 2,400,000 inhabitants. It is one of the countries most affected by desertification and by drought. Access to water is very difficult. The existence of wells (water points), isolated in many cases, causes a concentration of livestock and encourages over-grazing, thus accentuating desertification. Furthermore, the labour-intensive work relating to drawing and transporting of the water for food and domestic needs is endured by women, and takes place in poor hygienic conditions, causing an increase in illnesses related to diarrhoea.

Similarly, the country benefits from climatic conditions favourable for the exploitation of wind energy designed for the production of electricity. The wind is relatively constant all through the year, with an average speed of approximately 6 m/s. The coastal zone (1,000 km long) is more windy, with wind speeds that could rise above 9 m/s.

Thus, in the effort to contribute to a water supply for the population, the government has put in place a wind-pump project called "Alizé" in the Trarza zone, with the support of development partners such as the Global Environmental Fund (GEF), the European Union, the French Development Cooperation, and a NGO (Groupe de Recherche et d'Echange Technologie, GRET).

Strategy of the Project

- Organisational Aspects

Moving Towards Popular Support

The implementation of wind pumps in a village is subject to a certain number of conditions, e.g., articulating the needs of the population, ensuring that the wind-pump sites meet the technical criteria, ensuring financial contribution of the population, and establishing a village committee to oversee the water resources.

The contribution of villagers benefiting from this project represents about 10% of the investment costs, which is $US 13,000 per wind pump installed. These investments include the digging and the cementing of wells, the construction of two reservoirs, fire hydrant, watering places, and the installation of a multi-purpose wind pump. All the steps leading to the installation of the equipment are based on information and sensitisation campaigns. The people create a management committee of villagers acting as an intermediary between the operators of the project and the beneficiaries.

Strengthening of National Firm

The involvement of the firm Deynoul SA in the project has progressively helped to build national expertise in the area of wind pumps. This company has been responsible right from the start for the installation and the technical monitoring of the equipment. Today, it produces wind pumps of the OASIS type (ETS Poncelet of France) which are sold to Alizé and other projects. The company has gained expertise in the production of key parts such as: tower, tiller, rotor, breaks, etc.

Supplementary Measures

To make the technology more friendly, training of regional operators in the maintenance of equipment is ensured, thus facilitating the development of nearby after-sale services. Information and sensitisation campaigns are also organised.

- Technical Aspects

Wind pumps installed in villages are of the OASIS type and are used for wells between 20 to 30 m deep. The rotors are 2 to 3 m in diameter. The pumps are 50, 60, 70 mm in diameter with a flow of between 11 and 15 m^3 for a rotor of 2.5 m in diameter. The rotor of 3 m could ensure a 40% higher flow. In most of the villages equipped with the system, these flows can cover commercial gardening activities. Taking into account depreciation and the cost of maintenance, the cost of pumping water is evaluated between 0.16 and 0.32 US$ /m^3.

Results

All together, 152 wind pumps were installed to meet the water demand of about 30,000 people living in the villages. Today, due to the transfer of technology incorporated within the program, a Mauritanian company, Deynoul SA, produces more than 80% of the components of windpumps (OASIS-type) and ensures the maintenance of all the equipment.

Thanks to the accessibility of water, about 70 villages started commercial gardening and reforestation activities on 0.1 to 0.5 hectares per village. The proliferation of water points has considerably reduced the influx and concentration of livestock around traditional wells. It is estimated that more than 190 hectares are being saved in this way from the degradation of the vegetative cover which accentuates over-grazing.

Prospects

Due to the mastering of the technology and high demand which encourages wind-pump installation, the private sector has invested in wind pumps. From a final analysis, we can see that the conditions for a large dissemination of wind pumps have been met on a national and subregional level. Certain countries in the West African sub-regions, such as Senegal, have undertaken similar projects inspired by the Mauritanian experience: an example for a South-South cooperation to be promoted.

More information:
Terra Vivante,
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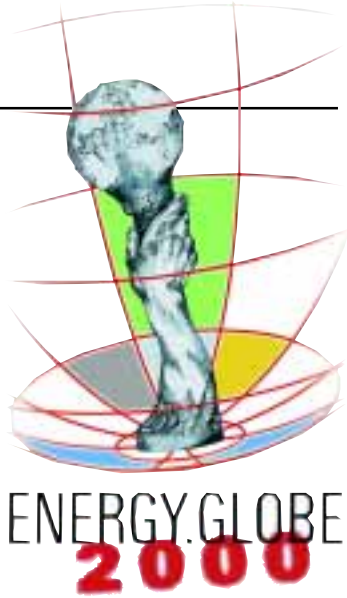
Mauritania.
Ph: +222-2-51641, fax: +222-2-55136,
e-mail: tayeb@toptechnology.mr

Energy Globe Award 2000

Call for Submission of Projects and Initiatives



A new award for sustainable energy solutions -The Energy Globe Award 2000 - will honour efforts in the fields of renewable energy sources and energy efficiency.

World Sustainable Energy Day 9-10 March 2000

The winners, and also other interesting project submissions, will be presented during the conference program of *"World Sustainable Energy Day 2000"*, which will be held in Wels, Austria from 9 - 12 March 2000. In 1999, the Conference had 500 participants from 55 countries and the fair attracted about 2,000 exhibitors and 200,000 visitors.

The Award also offer:
- conference presentation;
- prizes of 10,000 EURO /category;
- presentation in an EU-wide media campaign and an attractive publication.

Awards are offered in the following categories:
- buildings/housing (private, social, multi-family);
- commerce, industry, utilities;
- traffic and transport;
- municipalities, public institutions, schools, and NGOs.

The Award is open to companies, private and public institutions, and individuals from anywhere in the world.

Deadline for submission: ***15 November, 1999*** *by mail, fax or e-mail.*
For further information: O.Ö. Energiesparverband, Christiane Egger
Ph: +43 732 6584 4386,
fax: +43 732 6584 4383,
e-mail: energy.globe@esv.or.at
http://www.esv.or.at/energyglobe/.

Women & Renewables

By Lalita Balakrishnan, All India Women's Conference (AIWC), INFORSE member organisation

NGO Women's Input to the UN

The Asia Pacific NGO Symposium included 12 parallel workshops held in September in Thailand. These were attended by over 500 delegates. The Symposium, entitled „Asia Pacific Women 2000 Gender - Equality Development and Peace for the 21st Century", provided a forum for women to join forces in the review and assessment of the implementation of the Beijing Platform for Action.

In the workshop organised by AIWC, Ms. Serelt Menon focused on environmental issues in general, Ms. Meenu Mishra presented a paper entitled „Environmental Strategies and its Role in Promotion of Renewables", and Mrs. Chandramani Chopra focused on environmental laws in India.
The workshop received a very good response and was highly appreciated by participants from 20 countries, including representatives from UNDP, Bahai International, Thai, and Bangladesh Governments.
The recommendations of the Workshop will be submitted as NGO input at
- ESCAP High Level Meeting in 24-29th October, 1999,
- 44th Session of the UN Commission on the Status of Women in March 2000,
- Special Session of the General Assembly of UN in June 2000.

AIWC - EXPO 2000

AIWC's project proposal, „Sustainable Development through Renewable Energy Technologies", has been accepted for registration at the EXPO-2000 program „Projects around the World", Hannover, Germany.

Call for Award Nominations of Men: 'Women & Renewable Energy'

We request that you suggest names of some distinguished persons (male), who have worked with dedication on promotion of women and of renewable energy and who have made qualitative and significant contributions. Please send their names, along with text describing their achievements, to enable the International Selection Committee to choose one person to receive the Award at the World Renewable Energy Congress (WREC)-VI in July, 2000, UK. The international award, called Akhil Bharatiya Akshaya Urja Award, was instituted in 1998 at the WREC-V in Italy.

More Info: AIWC, Sarojini House, 6 Bhagwandas Road, New Delhi -110001 India. Ph: +91-11-3389680, - 3384092, fax: +91-11-3384092.

Drawings by: AIWC

INFORSE Europe E-mail Meeting '99

Starting November 15, 1999, INFORSE-Europe will, for the first time, make its annual meeting as an e-mail conference for all core members. During the first week of the conference a number of proposals for coming activities will be open for discussion.

Then the coordinators will summarize the discussion into an action plan and circulate this for comments. Before the meeting, all core members will receive a list of proposals and a report of INFORSE-Europe activities of the current year.

Contact: INFORSE-Europe, att Gunnar B. Olesen, Gl Kirkevej 56, 8530 Hjortshøj, Denmark.
Ph: +45-86227000, fax: +45-86227096
e-mail:ove@inforse.org, ove@inforse.dk

Environment in EU Energy Policy

The EU Council of Energy Ministers will discuss a strategy for integrating environmental aspects and sustainable development into energy policy when they meet in December 2, 1999. It is expected that the energy ministers will discuss a strategy with a number of new EU-wide measures, including:

- The new directive for renewable energy access to the internal electricity market,
- New initiatives for energy efficiency including combined heat and electricity, and reduction of stand-by losses, and
- Emissions trading and other flexible mechanisms of the Climate Convention.

It is not likely that the ministers will decide upon new measures in November 1999, because detailed proposals for the measures are not ready from the EU Commission, not even for the renewable energy access directive. They will probably decide upon an overall strategy and a regular evaluation of the progress for sustainable development in energy based on a set of criteria.

K2R4 Decision in November

Once again, we can announce that the decision in EBRD (European Bank for Reconstruction and Development) on loans for the controversial Khmelnitsky 2 and Rivne 4 reactors in Ukraine has been postponed, this time until November.

Source: BankWatch Network CEE, K2R4 Campaign: http://www.ecn.cz/k2r4

EBRD Hearing on Energy Policy

For the first time, the European Bank for Reconstruction and Development invites comments from NGOs for a new energy policy. The deadline is December 9, 1999. See draft policy at *www.ebrd.com/english/policies/draftpol.htm*. Send comments to *e-mail: eopp@ebrd.com, or to Akihito Nagata Power/Energy Utilities Team, EBRD One Exchange Square, London EC2A 2JN, UK, Fax: +44 171 338 7280*
For NGO comments see BankWatch Network: peu.ecn.cz or www.bankwatch.org

New INFORSE - East Asia & Pacific Regional Coordinator

SENT - Sustainable Energy Network for Thailand

SENT is a forum for non-governmental, non-profit organisations working related to energy issues. It was initiated in January, 1999 with the aims of providing sustainable energy solutions for the Thai society and of strengthening the capability of member organisations. There are 11 member organisations with different experiences in promoting sustainable energy. Some organisations have more academic experience, while others have done more promotion of renewable energy with local communities. Some members have helped to mobilise local people in protesting against conflicting energy projects.

The activities of SENT range from monthly network meetings to energy planning, workshops, and conferences. SENT has devoted considerable attention to scenario analysis to plan for the possibilities and the impacts of sustainable energy development for a sustainable future. SENT already organised the study and the seminar on 'Sustainable Energy Alternatives to the 1,400 MW Coal-fired Power Plant under Construction in Prachuab Khiri Khan Province Thailand'. Moreover, SENT has developed a homepage to stimulate information exchange within and outside the network. SENT will continue working on capacity-building for NGOs in sustainable energy development at national and regional levels.

Decharut Sukkumnoed
(Born 1968) General Secretary of SENT
M.S. in Agricultural Economics

Decharut is lecturer at Department of Agricultural and Resource Economics, Kasetsart University, Bangkok since 1992. He was team leader in the research project on 'Sustainable Energy Sustainable Society' in 1998. His specialisations are rural development and energy policy.

Suphakij Nuntavorakarn
(Born 1975)
Co-ordinator of SENT
B.S. in Economics in 1997

Suphakij was a researcher in the research project on 'Sustainable Energy Sustainable Society' in 1998 and the co-ordinator of the conference on 'Public Participation in Energy Sector' in May 1999.

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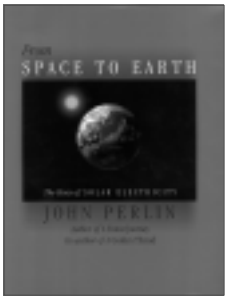
fax: +66 -2-9428047, 2-5615037,
e-mail: tonklagroup@usa.net
http://www.ata.or.th/sent/.

Publications

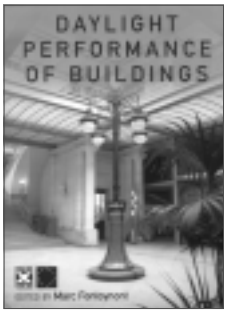
From Space to Earth
The Story of Solar Electricity



By John Perlin. The true and amazing success story of photovoltaics (PV). After years of research, John Perlin tracks the evolution of PV from its 19th century beginnings. It is not only the story of a technology. It is the story of determined individuals and organisation who brought the sun's energy to light and put it to use. Individuals who innovated, persisted, took chances, fought authorities, and brought us to our current increasing - though largely unrecognized - reliance on this subtly, silent energy source. The book has special emphasis to the impact on the developing world - electrifying the unelectrified - and on the developed world via building integrated PV and beyond: „The future: limitless"

ISBN 0-937948-15-2 (pbk). 224 pages. July 1999, hard cover costs: $32. Contact: AATEC publication, PO Box 7119, Ann Arbor, Michigan, USA. Ph: +1-734-995-1470, fax: +1-734-995-1471, e-mail: aatecpub@mindspring.com.

Daylight Performance of Buildings



Edited by Mark Fontoynont, ENTPE, Lyon, France based on the work of 23 contributing teams from 12 European Countries. The work was carried out as part of a JOULE III research program of the EC DGXII. What quality of daylight does architecture provide? 60 buildings were observed, measured and monitored. Institutional buildings like offices, museums, churches, libraries, factories etc. from classical to modern constructions. Colour illustrations throughout.

ISBN 1-873936-87-7, 304 pages, 297x230 mm, $90, 1999. Contact James & James, see below.

A Green Vitruvius - Principles & Practice of Sustainable Architectural Design

It provides a clear and attractive text for student, experienced practitioners, as well as serves as a valuable introduction to the subject. Numerous colour photographs and diagrams. The book is prepared within the THERMIE program of the EC DGXVII by the Architects' Council of Europe, Energy Research Group of University College Dublin, and Suomen Arkitehtiliitto in Helsinki.

ISBN 1-873936-94-X, 145 pages, 297x210mm, $40, 1999 Contact: James & James, 35-37 William Road, London NW1 3ER, UK. Ph:+44-171-387 8558, fax: +44-171-387 8998, e-mail:orders@jxj.com, http://www.jxj.com.

Good Practices in Access to Environmental Information

By Fe Canchis-Moreno, TERRA. Overview of the "freedom of access principles" of the EU Directive (90/313/EEC), the legal systems and practices applied in all EU member states. Who can request access? Who is obliged to respond? What is the time limit to respond? Can the requester choose the format? Can access be denied? What happens if the request is ignored? Supply of information without request.

ISBN 84-923776-3-1, 56 pages, 1999. Contact: TERRA, Environmental Policy Center C/Jorge Manrique 1, 28420 La Navata, Madrid Spain. Ph: +34-91-8586827, fax: + 34-91-5094092, e-mail: terra@quercus.es, http://www.sinix.net/paginas/terra.

Directory of Eco-villages in Europe

Detailed description of 57 eco-villages in 22 countries. Photos and contact addresses.

ISBN 3-9802184-3-0, 184 pages, 1998. DM 30 plus postage. Contact: GEN-Europe Global Eco-village Network, via Torri Superiore 5, 18039 Ventimiglia (Im) Italy. Ph: +39 184215504, fax: +39 184215914 e-mail: info@gen-europe.org, http://www.gaia.org/thegen/geneurope.

Newsletters

SolarNet

Solar Energy Network Newsletter
Vol.1 No. 1 January-April 1999
Published in 2000 copies by an NGO that is committed to the development of a non-commercial infrastructure for the dissemination of renewable energy technologies in paticular solar energy in East Africa. The newsletter is 28 pages and it is intended to be produced quarterly.

Contact: Solarnet, Flat 6, 2nd Gate on the left, Rose Avenue (Off Ngong Road), PO Box 76406 Nairobi, Kenya. Ph: 714623, fax: 720909, e-mail: solarnet@iconnect.co.ke.

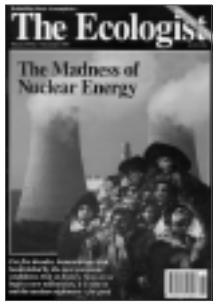
Ecologists' Special Issues:

- Climate Crisis

Why severe climate change could occur much sooner than previously predicted? How every aspect of our lives will be affected? Why governments have done so little? What has to be done now to restabilise global climate?

Volume 29 No 2, 1999, 100 pages, US$6.

- The Madness of Nuclear Energy



For 5 decades, humanity has been hoodwinked by the most poisonous confidence trick in history. It is time to end the nuclear nightmare - for Good

Volume 29 No. 7, 1999, 50 pages, US$ 5. Contact: Ecologist, Unit 18 Chelsea Wharf, 15 Lots Road, London SW10 0QJ, UK. Ph: +44-1713513578, fax: +44-1713513617, e-mail: ecologist@gn.apc.org, http://www.gn.apc.org/ecologist

WEB

ENERGIA - Women & Energy
www.sms.utwente.nl/vakgr/vok/energia

The Carbon War - Global Warming
www.carbonwar.com

EVENTS

*November 16-25, 1999 **

UNCCD COP3, Recife, Brazil

Info: Haus Carstanjen, Martin-Luther-King-Strasse 8, 53175 Bonn, Germany. Ph: +49-228 8152800, fax: +49-2288152899, e-mail: secretariat@unccd.de http://www.unccd.ch/secretariat.htm

See Theme in this issue on pages 5-11.

*December 1-3, 1999 **

PanEuropean Conference on Solar Energy, Sofia, Bulgaria

Info: Prof. P.Vitanov, e-mail:soeil@pronto.phys.bas.bg

December 13-16, 1999

Moscow InterLight '99 Moscow, Russia

5th International trade fair for lighting

Info: OWP Moscow, Russia. Ph: +7-95-9670461, fax: +7-95-9670462, e-mail: owpmow@dialup.ptt.ru.

January 17-18, 2000

Conference on the Czech Energy Sector, Prague, Czech Republic

Info: SMI - Consumer Services, London, Great Britain, Ph: +44-171-252-2222, fax: +44-171-252-2272, SEVEN http://www.svn.cz.

January 24-29, 2000

WCEC 2000, 2nd World Clean Energy Conf. & Exhibition, Geneva, Switzerland

Info: Conference Secretariat Rue de Varembe 3 POB 200, 1211 Geneva 20, Switzerland. Ph: +41-22-9103006, fax: +41-22-9103014, e-mail: conference@cleanenergy2000.com, http://www.cleanenergy2000.com.

February 9-11, 2000

Millennium Int'l Conference on Renewable Energy Technologies, Madras, India

Info: Dr. C. Palaniappan, Planters Energy Network, 171/2 M.K. University road, Rajambadi, Madurai, India. Ph: +91-452-858607, -856020, e-mail: pen@vsnl.com.

February 18-20, 2000

Renewable Energy 2000 Stuttgart, Germany

Int'l Exhibition & Conference on Wind and other Renewable Energies

Info: Erneuerbare energien, Unter den Linden 15, D-72760 Reutlingen. Ph: +49 7121 937520, fax +49 7121 371835, e-mail: jgroehm@aol.com, http://www.energie-server.de

*March 6-10, 2000 **

UN Expert Meeting CSD9, New York, USA

Info: UN, Division for Sustainable Development, 2 UN Plaza, Room DC2-2220, New York, NY 10017 USA. Ph: + 1 212/963 3170, fax: + 1 212/963 4260, e-mail: dsd@un.org, http://www.un.org/esa/sustdev/csd.htm.

See article on page 3.

8-10 March 2000

Renewable Energy for the New Millennium Conference, Sydney, Australia

Info: Electricity Supply Association of Australia Limited (ESAA), Level 11, 74 Castlereagh Street, Sydney, NSW 2000, Australia. Ph: +612-9233-7222, fax: +612.9233.7244, e-mail: vandermeulen@esaa.org.au, http://www.esaa.com.au

March 9-10, 2000

World Sustainable Energy Day 2000, Wels, Austria

Int'l conference on energy efficiency and renewable energy sources, Presentation of the Energy Globe Award 2000

Info: Christiane Egger, Energiesparverband, Austria. Ph: +43 732 6584 4386, fax: +43 732 6584 4383, e-mail: energy.globe@esv.or.at, http://www.esv.or.at/energyglobe/

See article on page 12.

March 12-14, 2000

1st European Conference of Renewable Energy & Agriculture: The Changing Land of Europe, Noordwijkerhout, Netherlands.

Info: European Media Marketing, Ltd, P.O. Box 259, Bromley BR1 1ZR, UK. Fax: +44 181 289-8484; e-mail:sustain@emml.co.uk.

April 3-15, 2000,

9th Int'l Course on the Implementation of Wind Energy, Petten, Holland.

Info: J.W.M. Dekker, ECN, PO Box 1, NL1755 ZG Petten. Ph: +31 224 564-278, fax: +31 224 563-214; e-mail: j.dekker@ecn.nl.

April 13-14, 2000

Offshore Wind Energy in the Mediterranean and Other European Seas, Siracusa, Sicily, Italy

Info: OWEMES 2000, ENEA C.R. Casaccia, Via Anguillarese 301, I-00060 S. Maria di Galeria (Roma), Italy. Ph: +39 6 3048-3994/4138, fax: +39 6 3048-6315/6486; e-mail: gaetano.gaudiosi@casaccia.enea.it

April 17-22, 2000

Int'l Course on Small Hydro Power Development, Kathmandu, Nepal

Info: Alternative Hydro Energy Center, University of Roorkee, Roorkee, 247 667, UP India. Ph: +91-1332-74254, fax: +91-1332-73517, e-mail: ahec@vsnl.com, ahec@rurkiu.ernet.in.

April 18-21, 2000

New Energy 2000, Shanghai, China

Int'l Exhibition.Host: China Chamber of Commerce, et.al.

Info: Coastal Int'l Exhibition Ltd., 3808 China Resources Bldg, 26 Harbour rd Wanchai Hong Kong. Ph: 852-28276766, fax: +852-28275224, +852-28276870, e-mail: general@coastal.com.hk, http://www.coastal.com.hk.

*April 22, 2000 **

Earth Day 2000

Info: Earth Day Network, Mark Dubois, 91 Marion str., Seattle, WA 98104, USA. Ph: +1-206-2640114, fax: +1-206-6821184, e-mail: worldwide@earthday.net, http://www.earthday.net.

See article on page 4.

25-28 April 2000

11th Annual Global Warming Int'l Conference & Expo, Boston, U.S.A.

Info: Global Warming Int'l Center-USA, 22W381-75th Street, Chicago, IL 60565 USA. Ph: +1-630-910-1551, fax: +1-630-910-1561, http://GlobalWarming.net.

April 30 - May 4, 2000

Windpower 2000, Palm Springs, CA, USA.

Info: AWEA, American Wind Energy Association, 122 C Street, N.W., 4th Floor, Washington, D.C., 20001, USA. Ph: + 1 202 383-2500; fax: +1 202 383-2505, e-mail: laura_keelan@awea.org

May 1-5, 2000

16th European PV Energy Conference and Exhibition, Glasgow, UK

Info: WIP, Sylvensteinerstr. 2, 81369, Munchen, Germany. Ph: +49-89-7201235, fax: +49-89-7201291, e-mail: renewables@tnet.de, http://www.wip.tnet.de/pv00.htm.

June 5-9, 2000

1st World Conf., Exhibition on Biomass for Energy & Industry, Sevilla, Spain

Info: Dr. David Chiaramonti, Energia TA - Florence Piazza Savonarola 10, 50132, Florence, Italy. Ph: +39-055-5002174, fax: +39-055-573425, http://www.etaflorence.it, or WIP Germany see at event above.

June 19-22, 2000

EUROSUN 2000 Congress, Copenhagen, Denmark

3rd ISES-Europe Conference

Info: DANVAK, Orholmvej 40B, 2800 Lyngby, Denmark. Ph: +45-45-877611, fax: +45-45-877677, e-mail: info@danvak.dk.

July 1-7, 2000

WREC-2000, Brighton, UK

World Renewable Energy Congress

Info: Prof. Ali Sayigh, World Renewable Energy Network, 147 Hilmanton, Lower Early, Reading RG64 HN, UK. Ph/fax: +44-1189-611364/-611365, e-mail: asayigh@netcomuk.co.uk, http://www.wrenuk.co.uk.

October 17-19, 2000

EEBW 2000, Prague, Czech Republic

Energy Efficiency Business Week, Conference and Exhibition

Info: SEVEn, Slezska 7, 120 56 Prague 2, Czech Republic. Ph: +420-2-2425-2115, fax: +420-2-2424-7597, e-mail: seven@svn.cz, http://www.svn.cz.

* = *Event with INFORSE participation*

1-9 March, 1-9 April 2000, 1-9 October, 1-9 November 2000

Solar Sisters Program, Kathmandu, Nepal Installing PV systems in remote homes.

Info: Himalayan Light Foundation, P.O. Box 8975 EPC: 5493, Kathmandu, Nepal. Ph: +977.1 418.203. fax: +977.1.412.924. e-mail: hlf@mos.com.np, http:// www.panasia.org.sg/nepalnet/hlf/home.htm.

May, June, July, August, 2000

3 day courses by SEI on Renewable Energy Technologies, Carbondale, CO, U.S.A.

Contact: Solar Energy International (SEI), PO. Box 715, Carbondale, CO 81623-0715, U.S.A. Ph: +1-970-963-8855, fax: +1-970-963-8866, e-mail: sei@solarenergy.org. http://www.solarenergy.org.

Contents

Combatting Desertification

Mali-Folkecenter for Renewable Energy

The Danish Folkecenter for Renewable Energy Opened its Representation in Africa in June, 1999 in Mali.

Sustainable development around the world, particularly in developing countries, is one of the priorities of the Danish Folkecenter, a member of INFORSE. Within this framework, the Folkecenter was invited by the President of Mali, Alpha Oumar Konare, to participate in the rural development project for promotion of renewable energy and for sustainable management of natural resources. As a result of the positive discussion with the President and the high level Malian authorities during the visit, the President sent a request to the Director of the Folkecenter, Preben Maegaard, to open their representation in Mali.

The Energy Minister of Mali (right) and the Director of the Danish Folkecenter met to discuss the new Folkecenter in Mali.

The activities of the Mali-Folkecenter are expected to include:

- Supply clean water to people, animals, and irrigation by installing PV pumps.
- Provide electricity to clinics in the rural areas for refrigeration of medicine for sterilisation, and for light by installation of PV panels.
- Electrifying schools by installing PV panels, so that adult people, particularly women, can go to school in the evening. This will increase the literacy rate in these countries (today in Mali it is less than 30%, about 15% for women). In this way, the standard of living of the people in the rural areas will be improved.
- Training rural technicians in renewable-energy technologies and in maintaining equipment in these areas.
- Implement various information and training programs within the field of renewable energy and environmental protection, aimed at the university and technical schools.
- Promote transfer of technology initiating contact between small and medium-size enterprises (SMEs) working in renewable energy and Danish SMEs.
- Fight against desertification by building stoves for healthy cooking (without smoke) and for wood saving that will protect the forest and biodiversity. Introduction of household biogas plants, enabling women to cook with the methane from biogas and to have compost for their garden after anaerobic fermentation of the animal manure in the digester.
- Elaboration of national energy policies and programs.

Funding

Presently, the Mali-Folkecenter is financed by the Danish Folkecenter. The Folkecenters are looking for funds to implement the projects and plan to organise contacts to other development organisations and NGOs for realisation of the projects.

For further information please contact:
- Mali Folkecenter: Ibrahim Togola, Ph: +223-200617, fax: +223-200618, e-mail: mali@folkecenter.dk .
- Denmark Folkecenter: Jane Kruse, Kammersgaardsvej 16, Sdr. Ydby, DK-7760 Hurup, Thy, Denmark. Ph: +45 97956600, fax: +4597956565, e-mail: energy@folkecenter.dk, http://www.folkecenter.dk.