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GLOBAL NETWORK ON ENERGY FOR SUSTAINABLE DEVELOPMENT- A NETWORK FACILITATED BY UNEP



Working group 3 of the Nairobi regional workshop looked closer at policy and regulatory options for enhancing electrification through private investment and was moderated by Dr. Brij Kishore Baguant.

Political commitment and innovative policies are necessary for power sector reform programmes to benefit the poor

This is one of the key messages from three regional workshops jointly organised in the first half of 2005 by UNEP, UNDP and IEA in collaboration with GNESD. The key theme for all three workshops has been to address the dual challenge of ensuring electricity for national economic development and at the same time provide increased electricity access to the poor parts of the population. The aim of the workshops was to stimulate new, cost-effective approaches to help create a sustainable energy future. Special focus was put on the role of energy in achieving the Millennium Development Goals (MDGs).

The three regional workshops were based on the IEA's global meeting on Electricity & Development convened in Paris, January 2005 and the outcomes of the GNESD Energy Access theme. The common understanding emerging from that meeting was that there is a need to address the challenges in their specific national context and that the earlier tendencies to use "one size fits all" approaches are now increasingly being abandoned. Detailed discussions at regional level were facilitated jointly by the three agencies.

Significant progress was made on the key issues at the three regional workshops by looking into the linkages between national contexts, poverty, development and access to electricity. One of the main conclusions from the workshops is that the provision of modern energy services is crucial to the overall social and economic development and these services provide a platform without which the MDGs cannot be attained. Lack of access to electricity in itself stood out as the clearest indicator of energy poverty – and, indeed, of poverty in general.

The recommendations coming out of the workshops are that new and innovative policies should be implemented, along with rural electrification programmes, to ensure that electricity will positively affect the lives of the poorest, still

lacking access to modern forms of energy. Innovative policies such as the ones listed in the box on page 2 could also prevent adverse impact on the financial performance of the electricity industry, and promote cleaner technologies. This requires close cooperation among all stakeholders.

The workshop delegates stressed that in order to have a significant impact on development, electricity supply should be affordable, reliable and should promote development of income generating activities. Electricity can also have a very positive impact on gender development, if the social dimension is addressed in electrification programmes. As pointed out by a workshop participant: "Our education is traditional, governments are traditional and traditional paths are usually followed. There is a need to get away from this and think of new ways of integrating electricity into development."

One specific measure suggested is the involvement of the local private sector (especially SMEs) in the power sector. Their involvement in power sector reforms has the potential of not only expanding access in a cost-effective fashion but also of yielding substantial job generation and poverty reduction benefits. Policy makers and other stakeholders in the power sector need to implement innovative measures that would ensure the involvement of the SMEs in the electrification process.

The first of the three regional workshops was held in Rio de Janeiro, Brazil 13-14 April 2005 with attendance by more than 30 participants from the energy and development communities in Argentina, Brazil, Bolivia, Chile and Ecuador. This was followed by the Asian workshop which took place in Bangkok, Thailand 28-29 April and brought together more than 50 participants from Bangladesh, Bhutan, Indonesia, Thailand, Philippines, Cambodia, India, China, Nepal and Laos.

The third and final workshop was held at the UNEP Headquarter

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▷ ters in Nairobi on 13-14 July 2005. About 150 participants from 20 countries attended the workshop including the Executive Directors of both UNEP and the IEA and the Permanent Secretary of the Ministry of Energy, Kenya.

A common workshop report on the outcomes is under preparation and will be available late 2005. Proceedings from each of the three regional workshops are available from the GNESD website at www.gnesd.org

Participants at the regional workshop in Rio de Janeiro



The primary objective of GNESD's Energy Access theme activities has been to respond to the following two key questions:

- Have energy policy reforms addressed the "energy access" challenge facing the poor or have the reforms actually contributed to the growing problem of inadequate energy services for the poor in the developing world? (see the April 2004 issue of GNESD News, the Energy Access outcomes at www.gnesd.org or the Energy Access CD-ROM for more information).
- Based on rigorous analysis, which are the proven and robust policy options that would lead to improved, cleaner and more sustainable energy services for the poor in developing countries? (See box below for more information).

In pursuit of the above objectives, the Energy Access Working Group has carried out several research and research-related activities grouped into three distinct but inter-related phases: the Policy Research Phase, Policy Dissemination Phase and the current Policy Implementation Phase. The full set of outcomes from the Energy Access theme Working Group is available at www.gnesd.org and on the second version of the Energy Access CD-ROM. Please contact the Secretariat for your free copy.

Examples of innovative policies for more sustainable energy services:

Policies for enhancing electricity access

- Provision of electricity at commercial and community load centres e.g. in Zimbabwe
- Social Tariffs e.g. in Mozambique
- Promotion of mini-grids based on local resources e.g. in Tanzania
- Provision of electricity at the district centres e.g. in Tanzania
- Creation of Rural Electricity Agency (REA) mainly to extend subsidies to ESCO e.g. in Tanzania

Policies for strengthening financial viability of the utilities

- Cost- recovery based tariffs, surplus ploughed back into Rural Electrification Fund (REF), given on competitive bidding e.g. Uganda
- Generation levy (i.e. rural electrification levy) to fund Rural Electrification Programme e.g. Uganda, Kenya
- Locally developed and aggressively marketed low-cost electrical appliances to facilitate demand creation e.g. Zimbabwe

- Parallel lines (HT, LT) for the same village, HT for agriculture and LT for domestic, small enterprises e.g. India
- Franchisee, for billing and revenue collection as well as bulk purchaser and hence participating in up gradation of distribution network e.g. India
- Flat rate tariffs- India
- Financing (or subsidising) internal wiring to ensure recovery on otherwise dead investment
- Credit to consumers to pay connection fee in instalments

Regulatory measures

- Auditing/monitoring of activities of distribution companies by regulators
- Ensuring ring fencing of RE funds
- Mechanisms for cross-border sale of electricity with tariff harmonisation
- Encouraging small scale generation/distribution entities

Benefits are reaped from taking part in the Energy Access theme



Stephen Karekezi, director of the Kenyan Centre of Excellence, AFREP/FWD, has since 2003 been the theme coordinator of the Energy Access theme. The theme activities have generated a wealth of data and its outputs widely disseminated in regional workshops and international conferences. Stephen Karekezi explains that the studies undertaken under the GNESD Energy Access theme constitute a valuable addition to global literature on the impact of power sector reforms. The theme work demonstrated that most of the ongoing reforms have had an adverse impact on the poor and it provided proven policy recommendations for ensuring that the interests of the poor are protected in planned and ongoing reforms of the electricity industry of developing countries.



Stephen Karekezi

Participating in the Network has also strengthened the Centres' ability to assimilate and apply existing knowledge and experience on pro-poor policies. "In short, the Energy Access theme work has been very beneficial to policy makers, researchers, academics and energy and development workers involved in reforms of the energy industry in the developing world," he says. In addition to providing unique insights on the impact of power sector reforms, the GNESD Energy Access theme has provided an opportunity for the Participating Centres of Excellence to engage in research areas addressing priority energy policy problems that bedevil much of the developing world Stephen Karekezi concludes.

The RETs theme coordinator sees synergies among GNESD Centres

The RETs theme activities are coordinated by Gustavo Nadal, researcher at the Bariloche Foundation in Argentina. The coordinator's role is to help facilitate the participating Centres' detailed research work and ensure that the progress made by the Centres correspond to the agreed terms. Gustavo Nadal is convinced that the GNESD model of coordinated research based on a common framework ensures that also regional issues on sustainable development and poverty alleviation are adequately analyzed. GNESD work has so far been very rich in terms of information and experiences are exchanged between the Centres of Excellence. "The diversity of the cases analyzed helped learn many lessons, making clear that the value of GNESD work lies in its rich knowledge pool contributed by the Centres. This type of research outcomes are found to be relevant by both the local policy makers and the international community," he says.



Gustavo Nadal

Gustavo Nadal explains that with their involvement in the RETs theme, the Centres have benefited in terms of a broader analysis context, an exchange of information, tools and expertise, and an improved dissemination of outcomes. The RETs study has highlighted the potential for alternate technologies and the outcomes of such work, when shared across countries, provides good insights and therefore has tremendous benefits in policy making. "In addition, participating Centres also get benefited by working with different researchers who not only bring different skills to the Network, but also regional experiences that are very valuable," says Gustavo Nadal.

About the Network

Theme activities at the eleven Member Centres located in developing countries are supported in part by donations made by the UN Foundation and the governments of Denmark, France, Germany and the United Kingdom. The GNESD Secretariat manages the Network in conjunction with theme coordinators and the GNESD Steering Committee. Current themes include the implementation phase of the Energy Access activities and the RETs themes barrier identification and policy option phases.

For additional information on GNESD, the outcomes of Working Groups, or on how to join GNESD as a Partner, please contact Dr. John Christensen, at the GNESD Secretariat at gnesd@risoe.dk or Tel. +45 4677 5131 or Fax. +45 4632 1999.

Back issues of "GNESD News" are available at www.gnesd.org



Several publications have come out recently on the GNESD Energy Access results. Both the 100 page special issue of the IEI's *ESD Journal* and the French language ENDA publication *Bulletin Africain's* special issue are available from the GNESD website. www.gnesd.org

Policies proposed to overcome barriers to Renewable Energy Technologies

The Member Centres participating in the Renewable Energy Technologies (RETs) theme have recently finalized their individual technical reports looking into identifying the possible contributions of RETs in their region to poverty alleviation. GNESD is in a unique position to address this key issue, thanks to the participation of nine developing country Centres of Excellence simultaneously carrying out research work on the same issue and sharing experiences along the way.

The individual Centre reports have been compiled into a 90 page "RETs Comparison Report" extracting common lessons for understanding the barriers to RETs and the potential solutions to overcome them. The report takes a closer look at both success stories and RETs failures distributed across nine regions and lists a series of policy interventions that could either support further diffusion of RETs or help overcome the identified barriers to RETs. The Comparison Report is based on analysis in the following countries: Kenya and Tanzania, South Africa, Senegal, Jordan, Syria and Lebanon, China, India and Nepal, Thailand, Argentina and Brazil.

Common result emanating from the Comparison Report include:

- There is a high potential for local job generation through system manufacture, operation & maintenance and renewable resource extraction and processing.
- RETs as a tool for developing income generation activities is a key element for project sustainability.
- The role of RETs for poverty alleviation is important in all countries studied, and contrasts with the low level of development and political priority assigned to RETs.
- In some of the countries (e.g. Brazil), large scale RE projects are an option for poverty alleviation through increased economic activity in rural areas and through adequate access to energy.
- Coordination of activities and stakeholders is generally needed to avoid wasting resources and efforts (adequate institutional cross-sector framework).
- Projects should take into account local development needs and priorities.
- RETs should become an integral part of development programmes (opposite to isolated and technology driven projects).

The RETs theme Working Group has so far performed a general analysis of the renewable energy sector in the nine different regions and identified favourable combinations of users, resources, technologies, and capacities where renewable energies could make a significant contribution towards poverty alleviation.

The primary objective of the Renewable Energy Technologies (RETs) theme activities is to identify the contribution of RETs to poverty alleviation and to provide concrete policy guidance and to identify and overcome previously identified barriers to RETs. The long term aim is not only to improve the quality of life of poor households but also to secure a development of productive activities which generate employment and extra income for the population.

GNESD

Secretariat:

The GNESD Secretariat is located at Risø National Laboratory (RNL), Denmark, which is also the host of the UNEP RISØ Centre (URC).

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A dedicated web site for the GNESD is located at www.gnesd.org. This newsletter provides information on the activities of GNESD and the views expressed do not necessarily represent those of UNEP or Risø National Laboratory. For additional information or comments please contact the editor, Per Kolbeck (per.kolbeck@risoe.dk). GNESD is printed on 100% recycled, chlorine-free paper. Layout by Finn Hagen Madsen, finn@studio8.dk.

The theme has until now provided interesting insights, but being a broad study of the full renewable sector, it still needs more detailed assessments to allow concrete actions to be taken. It does for example not cover the instruments and strategies to be used to reach the objectives. Consequently, there is still work to be done for the Working Group.

As a result, a policy option phase of the RETs theme was launched in October 2005 focusing on generating the fundamental technical knowledge and recommendations necessary to take concrete actions to overcome the identified barriers and develop specific renewable actions through national/regional programmes. More information is available under the *Activities section* of gnesd.org. The Comparison Report will be available from the GNESD web site shortly.

Future GNESD activities taking shape

The two GNESD Steering Committee co-chairs, Thomas B. Johansson, Director of IIEE, Sweden and Ogunlade Davidson, Dean at the University of Sierra Leone are finalizing a joint scoping paper looking into the linkages between energy and reaching the Millennium Development Goals (MDGs). The paper, titled "Reaching the Millennium Development Goals and Beyond: Access to Modern Forms of Energy as a Pre-Requisite", is based on case examples supplied by the Member Centres and will form the foundation for a coming GNESD theme focusing on energy and the MDGs.

Funding for GNESD activities in 2006 and 2007 have been secured by pledges from the Danish and German Governments meaning that GNESD's new "MDG theme" may actively be launched in the coming months.