

Independent Evaluation of an Ongoing Programme 2007

Renewable Energy and Energy Efficiency (REEE), Pakistan

Brief Report

gtz

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This report was produced by independent external experts.
It reflects only their opinion and assessment.

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Tabular overview

The evaluation mission

Evaluation period	05/2007 – 04/2008
Evaluating institute/ consulting firm	AGEG Consultants eG, Kirchheim unter Teck
Evaluation team	Haider Ahmadsad (international consultant) Ahmed Sohail (national consultant)

The project/programme

Title of the project/programme according to the order	Renewable Energy and Energy Efficiency (REEE)Pakistan
Project/programme number	2003.2452.5
Overall term broken down by phases	1st phase: September 2005 to August 2008 2nd phase: September 2008 to August 2011
Total costs	1st phase: EUR 3,533,000
Objective of the project/programme	Improved capacities of the public and private sector to promote renewable energy (RE) as part of rural electrification and to implement energy efficiency activities (EE) in small and medium-sized enterprises (SME).
Lead executing agency	AEDB - Alternative Energy Development Board, Pakistan, Prime Minister's Secretariat
Implementing organisations	AEDB, ENERCON – National Energy Conservation Centre, Ministry of Environment
Other participating development organisations	Pakistan Council of Renewable Energy Technology (PCRET), National Productivity Organisation (NPO) Pakistan Federation of Chamber of Commerce and Industry, Small Hydel Development Organisation (SHYDO) in Peshawar, Small and Medium Enterprises Development Authority (SMEDA)
Target groups	Users of energy services at household and enterprise level

The rating

Overall rating <i>On a scale of 1 (very good, significantly better than expected) to 6 (the project/program is useless, or the situation has deteriorated on balance)</i>	2
Individual rating	Relevance: 1; Effectiveness: 2; Impact: 2; Efficiency: 2; Sustainability: 2

The object of the evaluation is the Programme “Renewable Energy and Energy Efficiency (REEE)” in Pakistan. The evaluation was carried out by Mr Haider Ahmadsad (international consultant) and Mr Ahmed Sohail (national consultant) from May 2007 to April 2008. The field mission in Pakistan took place from 01 November to 20 November 2007.

REEE is an ongoing programme. It started in 2005 and is currently in its 1st phase, which will end in August 2008. The overall term is scheduled up to 2011. The overall objective of the programme is to improve the capacities of the public and private sector for both the promotion of renewable energy (RE) as part of rural electrification and the implementation of energy efficiency (EE) in small and medium-sized enterprises (SME).

The direct beneficiaries of the programme are users of energy services in private households and enterprises. The intermediaries of the programme measures are management staff of partner institutions such as the Alternative Energy Development Board (AEDB), the National Energy Conservation Centre (ENERCON), and members of energy service providers and industry associations.

The political partner of the programme is the AEDB at the Secretariat of the Prime Minister of Pakistan. Further implementation partners are ENERCON (Ministry of the Environment), the Pakistan Council of Renewable Energy Technology, PCRET (Ministry of Science and Technology), the National Productivity Organisation, NPO (Ministry of Industry and Production), the Federation of the Chamber of Commerce and Industry and associations of various branches.

The concept of REEE is based on a joint problem analysis, which characterises the Pakistani energy sector as follows: (1) Some 60 to 80 million people in Pakistan do not have access to reliable and affordable electricity. Biomass is scarce for cooking, heating and hot water. Most rural families live in off-grid areas and will do so in the foreseeable future; (2) In urban regions, the inefficient use of energy by the manufacturing sector constitutes a considerable

obstacle to their competitiveness and development; (3) As a consequence of inefficient energy use, Pakistan's power sector is not able to expand the generating capacity of large hydroelectric or conventional thermal power plants and thus satisfy the ever-growing demand; (4) The potentials of the decentralised renewable sources of energy that are available throughout the year are hardly made use of - except in the case of the large hydroelectric power plants. The same applies to energy-saving potentials in the industry; (5) Weak institutional arrangements for RE/EE promotion. Neither the relevant state institutions nor the private sector possess the necessary structures, qualifications and know-how to develop and implement adequate solutions to resolve these problems; (6) Lack of understanding, awareness, information and outreach (on the part of energy users), uneven allocation of resources; (7) Lack of appropriate monitoring and evaluation procedures.

The REEE Programme has two components to tackle the manifold problems of the energy sector: (1) decentralised provision of renewable energies in off-grid areas, and (2) improvement of energy efficiency in selected industrial sectors. The programme strategy integrates elements of both multi-level and multi-actor approaches. To achieve the objective, the programme activities are conducted in two main areas (i) capacity building, institutional development and policy advice and (ii) pilot and model initiatives.

Assessment of the programme shows that the following results have been achieved:

Macro-level: (1) Formulation, approval and completion of renewable energy and energy conservation policies by partner organisations AEDB (Alternative Energy Development Board) and ENERCON (National Energy Conservation Centre); (2) preparation of an action plan for the implementation of energy conservation policy and (3) institutional networking and international exchange of experience in the field of RE and EE. In the RE policy, the qualitative and quantitative framework conditions for solar, wind and small hydropower have been precisely defined for the first time.

Meso-level: The programme mainly focuses on the meso-level and supports the personnel of energy service providers and industry associations who cooperate as intermediaries with the programme partners AEDB and ENERCON. In the field of RE, the rural electrification project in Baluchistan and Sindh has started. Bidding documents according to international standards have been prepared and cooperation agreements have been signed between the implementing companies and AEDB. In the field of EE, the interrelation of industrial productivity and efficient energy use has been demonstrated in cooperation with ENERCON, NPO and SMEDA (Small & Medium Enterprise Development Authority) in six projects in the textile sector (spinning, weaving, processing).

Micro-level: At the micro-level, the programme implements model projects and Private Public Partnership (PPP) measures. So far, two model projects and one PPP measure have been implemented in the field of solar hot water systems (SHW).

With regard to capacity development of the partner organisation (i.e. AEDB, ENERCON, NPO, SMEDA), the following results can be identified: The implementing partners of the programme have been well equipped with financial and human resources. The coordination between departments and the assignment of tasks and responsibilities has been improved. Internationally recognised standards and bidding procedures have been adopted. The partner organisations have started to develop the consulting services of the programme on their own. They regularly participate in international consultations, conferences and bank meetings, such as the UN Conference for Sustainable Development (UNCSD 15) in New York in May 2007. The partner organisations are more and more involved in regional and international activities in the field of RE and EE.

Overall rating: The overall rating of the programme is “good, fully in line with expectations, no significant defect” (2). The evaluation team has arrived at a quite homogeneous assessment of programme performance. All aspects to be considered are rated positive.

Relevance: (1) The relevance of the programme is rated “very good”, significantly beyond expectations. The concept and approach of the programme are appropriate with regards to the framework conditions and took adequately into account the interests and needs of the target groups and institutions involved. The programme is fully in line with the development policies of Pakistan. The measures conform to the Millennium Development Goals (MDGs) (1, poverty reduction and 7, environment and sustainable development) and the development policy of the German Government in line with the country strategy for Pakistan (August 2003), which highlights the promotion of RE as a main focus of Pakistani-German cooperation.

Effectiveness: (2) The effectiveness of the programme is rated “good”, fully in line with expectations, with no significant defect. The programme is highly effective in supporting partners by delivering expertise, technical assistance and capacity building to enable them to implement pilot and model projects. The following results related to the overall objective have been identified by the evaluation mission: (1) adoption of RE and EE policy by GOP and development of implementation strategies; (2) rural electrification projects have started in two provinces; (3) six textile companies are applying the measures of EE and (4) one PPP was implemented with solar hot water systems.

Impact: (2) The impact of the programme is rated “good”. The main visible results are: (1) the decision-makers in the energy sector are aware of the importance of integrated sector planning including the components EE and RE; (2) in selected industries such as the textile industry, the production expenditures are reduced through effective use of energy. This leads to increased competitiveness of local products, improved company revenues and finally, to secure jobs in the industry; (3) a new service structure and professional profile of energy service providers and energy advisors will be created.

Efficiency: (2) The efficiency of the programme is rated “good”. The mission did not see any better alternatives to the services provided by the programme and the chosen modes of delivery. The resources used for training partner staff and for implementing model projects have resulted in building up important capacities that are now available. The resources have been utilised in a responsible way and the inputs can be considered justified in relation to the output and results achieved.

Sustainability: (2) The sustainability of the programme is rated “good”. The economic and political sustainability of the programme is good. At policy level, coordinated efforts are being made to implement RE and EE policies in a self-sustaining and professional manner, including private-sector initiatives. The required institutional structures in the process are being developed to ensure implementation and smooth cooperation between different actors. By providing energy in a sustainable form, the programme will improve the living conditions of the poorer sections of the population in off-grid areas and contribute to a fair and peaceful balance of interests, ensuring political stability and security in the region. The ecological sustainability of the programme is likely to be positive due to the promotion of renewable energy and energy efficiency, with a considerable reduction in emissions in the course of installation and operation. EE measures increase energy productivity and conserve natural resources. Both EE and RE measures contribute to CO₂ reduction and climate protection.

Special evaluation questions: The activities of the programme are not explicitly aligned with the promotion of gender equality (GTZ, 3/2005). The programme concept was not differentiated by gender. No gender analysis was presented. However, the programme and its partner institutions see the necessity of integrating gender issues into the process of planning and implementing measures. In this context, some activities such as participation in planning processes have been already carried out, despite the lack of a clear concept and approaches related to the integration of gender issues. The evaluation mission could not identify a common strategy for the integration of gender issues into energy policy formulation

and energy measures that would consider the different regional, socio-economical and cultural framework conditions of the rural and urban target population.

Both components, renewable energy (RE) and energy efficiency (EE), have a major poverty orientation by providing reliable energy sources at affordable prices to the population, including poor people. This contributes to the achievement of the Millennium Development Goals (MDG1, eradication of extreme poverty and hunger). The activities to integrate renewable energy sources into the energy supply system and also the implementation of energy conservation strategies using best practices for efficient use of energy in industry and households all contribute to ecological sustainability, thereby supporting Millennium Development Goal 7 (ensure environmental sustainability).

Overarching conclusions and recommendations: The programme is successfully supporting a number of activities on different levels. The current focus on the macro-level is justified, as the government has not yet sufficiently provided an enabling environment for the exploitation of renewable energies and energy efficiency measures. Working at different levels in a multi-level approach contributes significantly to the institutionalisation of programme approaches, methodologies and procedures. This approach should also be kept during the second phase of the programme. Greater consideration should perhaps be given to the private sector when realising pilot and model projects. In addition, PPP and CDM (Clean Development Mechanism) issues should be integrated into the model projects, which greatly encourage private investors/sectors in the RE and the EE area. Possibilities of leasing arrangements for the procurement of RE and EE should be explored with financial institutions (banks, leasing companies), as banks already have an ongoing system for marketing the products (home finance, cars, home appliances etc.). They would also have to offer soft financing to develop the market and directly support the government in enhancing the country's energy security.

The gender issues should be strongly integrated into the planning and implementation of future activities. The key challenge here is to ensure that gender sensitivity is incorporated into the overall planning and decision-making procedures so that gender concerns are fully mainstreamed.