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Technical Rehabilitation



Sustainable Operation

QUALITY ELECTRICITY PLUS



Environmental Protection



Productive Utilization
and Income Generation



Improvement of
Living Conditions

by



The quality electricity plus strategy

The '**QUALITY ELECTRICITY PLUS**' strategy represents a new approach to conventional electric supply strategies in rural areas. It aims to increase the poverty alleviation impact of rural electrification by adding components or activities which enable rural poor households to participate in the productive or leisure use of electricity. '**QUALITY ELECTRICITY PLUS**' stands for regular and stable supply of electricity, good maintenance services at affordable prices and special tariffs for poor households.

The positive impacts of electricity use on rural households in general and especially on poor households can be enhanced by a broader and more comprehensive view and concept of rural development and its interrelations and linkages with electricity supply and consumption. This broader view applies for initial electrification as well as for network improvements of rural areas with a certain number of poor households.

Poor households need special development programmes that include electricity supply to initiate structural changes in their living conditions and well-being. The best way to enhance opportunities for women's and men's participation in designing and implementing energy policies is, first, a gender-specific demand analysis at village and household level that enables women and men to voice out their problems, the self perceived causes of their poverty and solutions to these problems.

A Steps towards a pro-poor electricity supply approach

In order to build up a coherent pro-poor rural electrification approach, several steps are necessary before implementing the QUALITY ELECTRICITY PLUS strategy:

- **'Pro-Poor Policy' decision by the responsible Government Body (GB)**

First of all the responsible governmental authorities should formulate a policy decision as to a future pro-poor rural rehabilitation and electrification approach for villages defined as poor. These officially selected poor villages should be allowed preferential power supply conditions with regard to tariffs, connection fees etc. This preferential treatment should continue until these villages reach a predetermined economic standard.

The pro-poor policy decision will not hinder market oriented electricity supply in all other villages, counties, etc. which are not defined as poor. With such an approach the government demonstrates its social responsibility its solidarity and concern on the poor.

- **Creation of an interdisciplinary working group to formulate the framework for a pro-poor approach and a 'QUALITY ELECTRICITY PLUS' Strategy**

An interdisciplinary working group should be installed to clarify the objectives and possible frame conditions of a pro-poor '**QUALITY ELECTRICITY PLUS**' approach. Special payment conditions for selected poor villages and further guidelines for implementing a pro-poor approach in rural electrification/rehabilitation is formulated by this working group.

- **Appointment of QEP+ representatives at county or village level**

When the guidelines for implementing a pro-poor approach are agreed upon, interested, motivated and competent **QEP+** representatives are appointed to represent the GB in further meetings. As horizontal cooperation between different government departments and private and semi-private agencies is not very common, cooperative activities between the involved agencies and government departments will be stimulated and practised.

- **Training of QEP+ representatives**

It can be assumed that training at county level will be offered for different representatives of different government departments (agriculture, road construction etc.) in order to focus better on present development needs of poor villages and households. The **QEP+** representative should participate in these trainings.

- **Potential demand and opportunities analysis**

A combined and common analysis of potential demand, resources and opportunities has to be carried out in poor areas with the participation of concerned village leaders and households. The objective of the analysis is among other things to forecast future electricity

demand and use and appraise possibilities for 'Quality Electricity PLUS' packages as well as select the best rehabilitation/electrification option for the concerned villages. In minority areas detailed electricity demand and absorptive capacity assessment is necessary and recommended to define the electricity/energy needs of these communities.

- **Integrate Quality Electricity PLUS Packages into the 'village development plan'**

At the county government level, 'poor village development plans' will have to be designed with the respective representatives of poor villages. The findings from the demand and potential analysis by the GB should be discussed and adapted with the County Government to be an integral component of the comprehensive 'poor village development plan'. Before designing final 'Quality Electricity PLUS' packages, households should be given the opportunity to voice out their concerns and experiences with respect to access to electricity and future demand. Gender disparities in electricity needs and electricity use have to be taken into consideration.

Very often it is not electricity which is the main problem. Very often lack of energy in general makes specially the situation of women in rural areas more complicated than the situation of men. Since development is about additional choices for people who would like to improve their conditions, inputs and packages have the most chance of success when women' and men's priorities and interests are met.

The **QUALITY ELECTRICITY PLUS** strategy could be implemented according to four principal approaches. In implementing these approaches, a wide range of packages/measures could be identified.

B Approach 1: Improvement of the use of Quality Electricity

To improve access to electricity for poor households, a number of options on the supply side are possible:

- **Payment of rehabilitation/connection fees stretched over a longer period**

Objective: Access to electricity can be afforded by the poor.

As was reported by customers and electricians, the payment of electricity rehabilitation/connection fees in one instalment is a heavy burden for poor households. This very often prevents them from participating in the rehabilitation programme and makes the first connection to the grid very expensive, too. Either rehabilitation/connection fees should be much more subsidised or the payment of the fees should be stretched over several years. A political decision in a pro-poor supply approach for subsidies is legitimated as a measure for redistribution of wealth¹. This will give a psychological signal "We care".

- **Lifeline rate for poor households**

Objective: Consumption of electricity can be afforded by the poor.

As rural tariffs in most counties are still higher than urban ones, poor households with a restricted electricity budget pay more for a very low consumption. A lifeline rate for poor households might ease the situation for these households and result in an increase of well-being.

- **Flexible billing system**

Objective: Bills can be paid by the poor.

Poor households mostly depend on agricultural and livestock production. Their cash income is linked to the sales of agricultural or animal products and therefore not available the whole

¹ The high start-up costs are only one of several obstacles to electricity use among poor people. Another obstacle is the combination of factors making or leaving poor people poor. Without increasing the productivity of agricultural work or creating new jobs by allocating smaller and larger industries to poor areas, electricity supply will not on its own help poor households. Credit for high start-up costs (households will even not apply for the credit because they don't know how to pay it back) is only valuable if the effects of a better electricity supply are combined with the use of electric machinery for productive use (see recommendations package 4). Lighting might pay immediately through improved working conditions and productivity in home industries if those opportunities are available or could be generated. In short, credit for the start up costs will not help without a package of additional measures.

year round. A flexible legalised billing system would allow poor households to cope better with the financial requirements of paying the electricity bill.

- **Training of selected villagers as village electricians**

Objective: Electricity can be handled in rural area.

The withdrawal/lay off of electricians from the village level is very detrimental especially for remote and non-rehabilitated villages, because problems in electric installation will happen more frequently than in rehabilitated villages. Therefore training of selected farmers as village electricians is suggested to enable villages to help themselves when minor electrical problems occur.

- **Promotion of other energy appliances together with electricity**

Objective: Other electricity sources are promoted.

Good quality electricity cannot alone solve the energy problems of the rural poor. In the absence of grid supply other electricity sources as wind or solar energy, or renewable appliances (for example solar water heaters) are steps on the energy ladder and should be promoted.

- **Customer services to promote electricity use**

Objective: Information is available with rural consumer groups.

The information level in rural and especially poor areas concerning the variety, use and maintenance of electric appliances is still very low. Information and demonstration services related to electricity use for poor customers are recommended (for example including the promotion of appliances for renewable energy use and energy saving bulbs etc.).

- **Tailored electricity supplies for remote areas**

Objective: Electricity sources and supply system fits best to the actual demand.

Cost recovery is an important argument against electrification/rehabilitation of remote and poor areas because of their low electricity consumption. So instead of serving all remaining villages from the public grid, other distributed electricity supply options might be cheaper and could assure an adequate electricity supply as well. To cater to the needs of the rural poor who live in remote areas, individual solar panels, wind systems and bio-fuels can solve the lighting problems of mobile households and as well allow TV watching. Although electricity generated from solar or wind power may still be more expensive than electricity generated from fossil fuels, village renewable energy systems (wind, water or solar powered) can be easily installed in remote areas and can avoid the high investment costs of extending the grid. However the productive or commercial use of electricity will be limited with renewable energy technologies. A detailed study should contribute to such solutions.

C Approach 2: Quality Electricity PLUS credits and loans

In this approach the emphasis is laid on additional financial support for poor households². Credits and loans for poor farmers and their wives will allow the purchase of processing machines in regions where agricultural products can be processed or equipment can lead to improved productivity in both households and farms. Preferential conditions (e.g. low interest rate/cost, medium to long term, six months grace period to generate income for repayment first) should be introduced with the purchased equipment or machinery serving as collateral.

- **Package 1: Quality Electricity PLUS credit for time and energy saving household equipment for women**

Objective: Well-being of poor households is improved and physically demanding work for women is reduced.

This package will therefore target rural women who wish to improve their productivity to cope with the triple daily workload (household, farm, and children). The package will provide fa-

² These programmes are meant for poor people who are able to work but lack opportunities and choices. Poor households in which household members are handicapped or ill need other support programmes to change their situation.

vourable credit facilities and training vouchers³ for time and energy saving household equipment and its use (energy saving cooking devices, electric washing machines). Courses such as how to build your own biogas plant, improved cooking stove, etc will be offered. Local banks will provide standard Quality Electricity PLUS consumer credits and distribute vouchers for special energy saving training.

- **Package 2: Quality Electricity PLUS housewives consumer credits programme for electric appliances to improve household productivity (as part of improved farm productivity)**

Objective: Housewives are enabled to earn additional income at home to supplement their limited farm income.

This package will therefore target rural housewives who wish to purchase by instalment, through favourable investment loans or through low cost lease arrangements electric productive household or cottage industry appliances (home sewing, weaving or knitting machines, hair dressing etc.) including free training vouchers for sewing, tailoring, knitting or other related skills. This package could also be offered to a group of women who jointly establish a “village cottage industry unit” in the immediate neighbourhood and act as a subcontractor to larger textile industry (shelter with electric facilities and equipment, see also package 7).

- **Package 3: Quality Electricity PLUS credit for income generating machines and equipment for underemployed or poor farmers**

Objective: Farm productivity is increased and off-farm income opportunities for poor farm households are created.

This package will target low-income farming households, which have no access to income generating machines and equipment due to lack of investment capital and skills. The package will provide favourable credit facilities, skill training vouchers and information on local market opportunities for self-employment and income generating activities (processing of agricultural produce, technical or other services). The package should assist poor farmers to improve their farm productivity and facilitate off-farm income with electric powered equipment and machines (water pumps, threshers, welding or machinery repair tools, etc.).

- **Package 4: Quality Electricity PLUS credit for basic appliances (TV, washing machine, water pump, etc.) for newly married young rural couples**

Objective: Start-up of newly created rural households eased and migration reduced by providing more attractive rural living conditions.

This incentive package will target newly married poor rural couples to ease the establishment of their own household and income generating activities (farm and off-farm) with a “rural family starting loan” and if necessary skill training vouchers. In some areas the loans could be converted into grants if the young couple is able to successfully establish their business and livelihood within five years. Based on regional government policy, loans would be channelled through local banks. Local electricity suppliers could boost their PR by handing over electric appliances as gifts at special ‘Young couples days’ and by distributing skill training vouchers.

D Approach 3: Quality Electricity PLUS training

In this approach the emphasis is on additional training and information efforts. Training and provision of information on new agricultural techniques creates opportunities for new income sources and increases the income of the poor, thus they are able to invest in labour saving electrical appliances or create new job opportunities for rural self-employment. All types of learning processes (distance learning by TV, vocational or on the job) should be supported to enable the effective use of the electric equipment, new technologies in agriculture, etc. This training should lead to additional demand-based services and income generating activities.

- **Package 5: Quality Electricity PLUS improvement of education by equipment and TV programmes for schools in remote areas and among minority nationalities**

³ There is extensive international experience and “best practice” available on the efficient use of training vouchers to stimulate training demand, see documents of Donors Conference on Business Development Services in Hanoi/Vietnam, 2000.

Objective: Pupils in rural areas are more competitive in the future labour market and the use of electric appliances for education is promoted.

This package will address the efficiency and quality of the formal learning process in all schools benefited from the electricity programme in providing and training the teachers in using electric lab or science equipment, video tapes and programmed TV learning software for the benefit of the pupils. Equipment and training of the teacher will be provided or facilitated jointly by local government budgets and the local power supply agency to foster the “Quality Electricity PLUS” policy of both national and local government.

- **Package 6: Quality Electricity PLUS applied language courses via TV or VDO/VCD for minority nationalities**

Objective: Competitiveness and mainstream social requirements of minorities improved.

This package will target those households that have benefited from the rehabilitation programme and wish now to make more effective use of the good electricity by distance and self-learning efforts. Programmed language courses (Chinese, English, main minority languages) provided on TV or VCD discs (marginal registration fee) to poor households sponsored by the local power supply company and TV channel could provide the younger generations of minority nationalities with new employment opportunities and professional challenges.

- **Package 7: Quality Electricity PLUS training in own business start-up.**

Objective: All kinds of initiative among potential entrepreneurs to start their own businesses are encouraged.

The package will support potential micro-entrepreneurs through media based market information, viable business information and entrepreneurship training – either by distance learning or local courses with additional tutoring by TV instructors. Training vouchers will be provided against marginal fees. Successful participants with viable business plans will be promoted through TV/radio and will be facilitated by local banks (international best practice: ‘CEFE’ training package). TVE management staff could act as mentors to guide the business starter or facilitate first contracts.

- **Package 8: Quality Electricity PLUS group initiatives for off-farm self – employment and new business opportunity training and credit programme**

Objective: Groups of business starters are encouraged.

The package will target groups of un- or underemployed but mature village youths to encourage them to attend jointly a small business creation or entrepreneurship training course. Some members might also wish to attend further skill training if the business to be started is jointly confirmed. This will be supplemented by group “start-your-business” loans from government banks for small productive village units using electric appliances including related skill training vouchers at low cost (tailoring, garment, power loom weaving, pottery, bakery, TV, agricultural equipment or bicycle repair centre, car garage, other mechanical services). Those units could also act as subcontractors or suppliers for TVEs or larger industries. TVE management staff could act as mentors to guide the business group starter or facilitate first contracts.

E Approach 4: Quality Electricity PLUS additional infrastructure

The emphasis in this approach is to combine with other infrastructure measures to create synergistic effects for rural households. Electricity rehabilitation programmes should be supplemented by additional infrastructure improvements in poor counties such as roads to facilitate access to markets, decreased transportation cost for processed agricultural produce and services or to provide piped water to households to save time, reduce workloads and increase productivity.

- **Package 9: Quality Electricity PLUS water supply (tap water and irrigation) in remote areas**

Objective: Benefits from synergistic effects of improved electricity supply due to rehabilitation and better water supply are used to increase productivity at both levels: household and farm.

As a joint effort between local power supply and physical infrastructure development agencies, this package will reduce the work load of household members, for example in carrying

water from public wells for use in an electric washing machine; it will also allow farmers to apply spray irrigation for vegetable growing and the use of water pumps to irrigate farm land for more intensive and more productive crop farming. Both farm women and their husbands could then apply for other Quality Electricity PLUS loans and training packages as well.

- **Package 10: Quality Electricity PLUS road connections to markets/towns**

Objective: Remoteness of 'poverty niches' to enable rural isolated households to have easier access to markets and towns reduced.

This package is again a joint effort of local power supply and physical infrastructure development agencies with the participation of the local population, which will benefit from those new or improved access roads. Roads (in mountain areas there could also be lifts/bridges) have manifold advantages for rural households: faster purchase of household and farm inputs, easier sale of farm products at town markets, better access to public services such as schools, hospitals and government offices.

This package would make other Quality Electricity PLUS loans and training packages more viable for rural households in remote areas and would reduce their remoteness as one main reason for poverty.

All packages should be integrated into the future poverty alleviation strategy and the development plan to be designed by the county governments and respective departments for the remaining poor villages and households.

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