

**SIGNATURE PAGE**

Country: Georgia

UNDAF Outcome(s)/Indicator(s):

Progress towards Environmental Sustainability Demonstrated

Expected Outcome(s)/Indicator (s):

Sustainable Environmental and Natural Resources Management Practices Adopted at National and Community Level

Expected Output(s)/Indicator(s):

Access to Sustainable Energy Increased through Utilization of Renewable Energy Resources

Implementing partner:

Ministry of Environmental Protection and Natural Resources

Responsible Party:

Winrock International

Programme Period: 2006-2010  
Programme Component: Energy and Environment for Sustainable Development  
Project Title: Promoting the Use of Small Hydropower Resources at the Community Level  
Award ID: 00033446  
Project ID: 00048095  
Project Duration: 19 months  
Management Arrangement: NEX

Budget	US\$ 934,579
General Management	
Support Fee	US\$ 65,421
Total budget:	US\$1000,000
Allocated resources:	
• Government	
• Regular	
• Other:	
○ Government of Norway: US\$ 1000,000	
○ Donor	
○ Donor	
• In kind contributions	
Unfunded budget:	

Agreed by (Implementing partner): Mr. David Tkeshelashvili, Minister of Environmental Protection and Natural Resources

Signature: 

Date: 20 Sept. 06

Agreed by (UNDP):

Mr. Robert Watkins, Resident Representative, UNDP Georgia

Signature: 

Date: 18 Sept 06

Agreed by (Responsible party): Mr. Dan Gudahl, Director of Contracts, Winrock International

Signature: 

Date: Sept 12 -06

## UNITED NATIONS DEVELOPMENT PROGRAMME

## PROJECT DOCUMENT

## Promoting the Use of Small Hydropower Resources at the Community Level

## PROJECT SUMMARY

<b>Sector:</b>	Energy and Environment
<b>Sub-sector:</b>	Renewable Energy
<b>Total Budget:</b>	USD 1,000,000
<b>Duration:</b>	19 months

Georgia is rich in hydro resources. The technical hydroelectric potential (including large hydropower plants) is estimated at about 80 – 85 billion kWh and the economically feasible potential at 40 – 50 billion kWh per year. In the past, the focus was on building large-scale hydro and thermo power plants and centralized electricity supply systems. Therefore, the number of small, mini and micro-hydro power plants, which were operational in the '60s, decreased from 300 to 40. Of these 40 existing facilities, many operate at very low efficiency or do not operate at all.

The development and efficient utilization of small hydropower resources is crucial given the serious energy crisis in the country. Currently, there are various financial, legal-regulatory, technical or capacity barriers against developing the country's renewable energy resources in general, and small and mini hydropower resources in particular.

The overall goal of this project is to promote the use of small hydropower resources in Georgia and to raise awareness and build capacities in local communities to develop and use these resources based on sustainable natural resources management practices.

In order to achieve this goal, the project will achieve the following objectives:

- Demonstrate sustainable management practices of local small hydropower resources at the community level;
- Build capacities of local communities and SMEs in managing local hydro resources, based on sustainable natural resources management practices.

## 1. Background

Georgia is known for its abundant hydro resources. There is a high potential to develop these resources as an alternative to using fossil fuels for electricity generation. The technical hydroelectric potential (including large hydropower plants) is estimated at about 80– 85 billion kWh and the economically feasible potential at 40–50 billion kWh per year.

As a result of the long tendency towards developing large-scale hydro schemes and thermo power plants, the number of small and mini power plants<sup>1</sup>, operating in the 1960s and providing rural communities, local farms and enterprises with electricity, has dropped from 300 to 40. Of the existing 40 plants, many operate at very low efficiency or do not operate at all. Taking into account the additional investment opportunities for new small hydro power plants, it has been estimated that in total it would be possible to build 160 small and mini hydropower plants in Georgia with a total net capacity of approximately 650 MW, and with an annual energy output of 3.9 billion kWh.

The development and efficient utilization of small hydropower resources is crucial, given the serious energy crisis in the country. There still exist barriers against developing the country's renewable energy resources in general, and small and mini hydropower resources in particular. Some of the barriers are (a) the lack of legal-regulatory and policy frameworks and economic incentives to promote the use of renewable energy resources; (b) poor capacity of the government, SMEs and local communities to develop and administer projects in this area based on state-of-the art technologies; and (c) limited access to financial resources.

Currently, there are several on-going donor-financed projects in the field of small and mini hydropower, aiming at promoting the use of these resources. They, however, have limited scope and financial resources, with a focus on implementation of a number of pilot hydropower resources development projects. In addition, these projects consider soft loans as a major financing mechanism for the development of small hydro resources in Georgia. This financing mechanism, although, may become an impediment to the implementation of significant number of investment projects for rehabilitation and construction of small- and mini-hydropower plants, given the weak financial status of local resources developers and existence of other legal-regulatory, policy and institutional barriers.

The UNDP/GEF-KfW project: "Georgia-Promoting the Use of Renewable Energy Resources for Local Energy Supply" with a total estimated cost of USD 13.6 million focuses on the rehabilitation of up to 8 privately-owned small hydropower plants, by providing soft loans to the owners/operators of these plants through the Renewable Energy Revolving Fund. From the total budget, the Government of Germany, through KfW, provides EUR 5.1 million for the actual implementation of selected hydro projects.

The USAID-funded Georgian Energy Security Initiative (GESI) through its Community Development Component had as objective to enhance the capacities of local communities in developing their energy resources, natural resource base and businesses. The focus of the pilot component of the project was on the development of mini-hydropower resources and SMEs in a number of selected communities. In September 2005 USAID commenced a four-year Rural Energy Program (REP) aiming to a) increase supply of reliable, efficiently produced energy in rural areas from environmentally –friendly resources, 2) improve local energy production management; c) improve in-country capacity for developing renewable energy resources in rural areas; and d) enhance the capacity to sustainably manage and protect local energy and natural resources base. To finance increased supplies of energy by rehabilitation of small hydro-generation plants and expansion of distribution network for natural gas supplies Rural Energy will create a credit facility of USD 15 million. The REP project will initially focus on the development of local energy and natural base of communities pre-selected under the USAID GESI project.

<sup>1</sup> Hydropower plants with up to 10 MW installed capacity fall under the small hydropower plants' category; hydropower plants with maximum 2 MW installed capacity are labeled mini hydropower plants.

## 2. Goal and Objectives

The overall goal of this project is to promote the use of small hydropower resources in Georgia and to raise awareness and build capacities in local communities to develop and use these resources based on sustainable natural resources management practices. This is in line with the country's priorities set out in the Economic Development and Poverty Reduction Program (EDPRP) and National MDG goals (MDG 1 and 7), as well as with the UNDP strategic priorities and its Country Programme outcomes.

In order to achieve this goal, the project will achieve the following objectives:

**Objective 1:** Demonstrate sustainable management practices of local small hydropower resources at the community level;

**Objective 2:** Build capacities of local communities and SMEs in managing local hydro resources, based on sustainable natural resources management practices.

## 3. Strategy

This proposed project aims to complement the existing efforts in the area of small hydropower development and reconstruction. This project will rehabilitate/construct two-three mini hydropower schemes that are currently owned by local communities or will soon become the property of these communities. In addition, the project includes a significant capacity building component, training of trainers to build and develop the capacities of the local communities and SMEs.

The target communities are Kekhijvari, Pshaveli and Nergeti communities. The three communities were selected under the USAID GESI project based on criteria such as economic viability, capacity of local organizations to manage projects, easy access to the project site, and environmental and energy considerations. Draft business plans have been prepared for all three plants under the GESI project, offering a combination of grant and loan as the most feasible financial mechanism for implementation of the projects. A credit facility has been established under the USAID GESI project to finance energy and other community development projects (please refer to the annex for details).

The total investment needs for three plants in Kekhijvari, Pshaveli and Nergeti communities are estimated at about USD 1,100,000. Out of three selected pilot projects, one mini-hydropower plant in Pshaveli community is to be newly constructed; the two others rehabilitated. The project will start with rehabilitation of HPP in Nergeti community and construction of HPP in Phaveli community, since the ownership of these HPPs is resolved. The third HPP is under the process of privatization. The project will make efforts to transfer the ownership to local communities. Only after this issue is resolved the project will rehabilitate the third HPP in Kekhijvari community.

It is envisaged that most community members (totaling to 5,515) will benefit directly or indirectly from the project by generating electricity for self-consumption and/or selling the surplus power to the distribution companies operational in the same region. Currently, the three selected communities are heavily dependent on subsistence economy. A shortage of electricity affects the quality of social services delivered by local schools, community centers and health clinics and hinders the development of local businesses. At the same time, the lack of electricity contributes to over-harvesting the woods and forests for heating purposes leading to serious environmental and economic implications. Therefore, the improvement of electricity supply would improve health, social and environmental status of the three targeted communities and allow for implementation of economic development programs by focusing on start-up of local businesses.

The project has tremendous potential; the successful implementation of the project might be replicated in other communities, and the rehabilitation and construction of small hydropower stations will in the long run contribute to the achievement of sustainable development goals and eradication of poverty in the country. It is envisaged that the project will start in November 2005 covering 18 months. The rehabilitation and construction works are planned to commence during the summer of 2006.

The project will effectively use the best available expertise by combining local and international expertise. It will establish close linkages with on-going projects in the field of renewable energy especially, with UNDP/GEF-KfW and USAID REP projects. This will be achieved through continuous consultations, sharing information and expertise, establishing joint Project Oversight Bodies, complementing one

another work and if deemed necessary, joining resources to pursue common objectives and goals. Specifically, in order to achieve maximum effectiveness and efficiency, the UNDP project will join its programmatic efforts with USAID REP program and two projects will share resources in the parallel financial modality to achieve the project goal and objectives. UNDP Project will contribute about USD 820,000 grant money for rehabilitation and construction of mini HPPs. The rest of the investment will be covered by USAID REP credit facility (former USAID GESI credit facility). In addition, USAID REP project will contribute its resources to expand suggested under this UNDP project capacity building activities, which are limited to management and operations of three targeted HPPs. USAID-REP additional capacity building activities will include training of targeted communities in renewable energy (RE) technologies, promotion of energy efficiency (EE), watershed planning and conservation of forest resources. After such trainings, CBOs within the communities will be able to donors for additional assistance to execute RE, EE and resource utilization planning.

Close consultations will be held with other major stakeholders at both central and local levels, including members of the community based organizations, local governments and self-governing councils. The project will assure that all key stakeholders are involved in the process and that the expected benefits of the project are equally shared, paying special attention to women and women headed households. For example, the training programme and capacity building activities for local communities and SMEs will be designed in such a way that gender balance among targeted groups will be achieved.

#### 4. Activities

**Objective 1: Demonstrate sustainable management practices of local small hydropower resources at the community level.**

*Output 1.1 Mini-hydropower plants in selected communities built*

Activity 1.1.1. Finalize technical design and specifications for the rehabilitation and construction works

Activity 1.1.1. Commission construction works

Activity 1.2.5. Monitor and evaluate the rehabilitation, construction, commissioning and operation of the plants.

**Objective 2: Build capacities of local communities and SMEs in managing local hydro resources, based on sustainable natural resources management practices.**

*Output 2.1. National trainers trained in small hydro resources management and project-related management issues*

Activity 2.1.1. Develop a training program, including its various modules and sub-programme for training of trainers.

Activity 2.1.2. Implement training of trainers programme.

*Output 2.2. Members of local communities and SMEs trained by national trainers in small hydro resources management and project-related management issues.*

Activity 2.2.1. Arrange special on-the job training of community based organizations and SMEs in management and proper technical and financial management of the rehabilitated and newly constructed facilities.

#### 5. Management Arrangements

The Ministry of Environment will be an implementing partner for the project. It will convene the project Steering Committee (PSC) to oversee the project and provide guidance for its implementation. The Ministry might consider the possibility to use the PSC established under the UNDP/GEF-KfW project in

order to enhance the coordination between two projects and improve the overall efficiency of the coordination mechanism.

In order to achieve maximum efficiency and effectiveness the project will use the Project Management Unit (PMU) already operational under the UNDP/GEF Renewable Energy Project. The PMU will be responsible for the day-to-day management and co-ordination of the project. Also, the PMU will act as secretariat for the Project Steering Committee; organizing the meetings, and compiling, reviewing and distributing the project progress reports from the different participating institutions. The PMU will use the expertise of local and international short-term experts. The PMU will be hosted by the National Agency on Climate Change on behalf of the Ministry of Environment and Natural Resources Protection.

Winrock International, US based NGO having vast experience in community energy development worldwide and being an implementing partner for the USAID-REP project will be a responsible party for rehabilitation and construction of selected mini hydro projects under overall supervision and monitoring from this UNDP project. Capacity assessment and justification for selecting Winrock International as responsible party for implementation of investment component of the project are attached.

## **6. Monitoring, Evaluation and Dissemination of Results**

The Project Steering Committee will oversee and monitor project activities. For this purpose, the Project Management Unit will periodically report on the project's progress, including the work of the subcontractors. The project's progress will be monitored and measured against performance indicators as set out in the Project Results Framework, Project Work Plan and Monitoring and Evaluation Plan, which will be developed during the inception phase of the project. Information on the project's progress will be updated regularly and made available through the project's web site.

The Project Manager will be requested to prepare regular progress reports and project implementation plans, including cash flow. In addition, detailed annual project reports and the final report will be prepared in consultation with the UNDP CO.

Periodic status and financial reporting of the UNDP funds administered by Winrock will be provided to the UNDP and Project Steering Committee through UNDP Project Manager.

The final project results, experiences and lessons learnt would be compiled into the project final report by the Project Manager and will be published and disseminated.

UNDP managed funds will be also the subject to annual audit by a certified auditor according to UNDP rules and procedures

## **7. Budget**

The total UNDP project budget amounts to USD 1,000,000. The budget covers an 19-month period.

**ANNEXES**

## Annex 1

### Information on USAID-REP Project

#### 1. Goal and Objectives

Rural Energy Program, a new USAID effort to improve energy supplies and energy efficiency in rural communities pursues the following primary objectives:

- Increase supply of energy in rural areas (both grid-connected and off-grid);
- Improve management of local energy production;
- Improve in-country capacity in energy conservation and alternative energy applications, and
- Improve capacity to more efficiently utilize and protect the local energy resource base.

Below we are providing detailed information regarding the Rural Energy Program's public awareness program and community selection process. It is desired to have selected communities geographically spread across eight regions and made up of a mixture of religious and ethnic groups.

#### 2. Community Selection Process

The following describes the process of identifying communities proposed for participation in improved energy supply and natural resources management activities to be implemented under the United States Agency for International Development (USAID) Rural Energy Program (Rural Energy). Rural Energy is a four-year program designed to increase generation of and improve access to energy in rural Georgia. The Program's four major activities include Independent Power Producer (IPP) facility rehabilitation, IPP operation and maintenance training, small-scale renewable energy and energy efficiency interventions, and integrated resource management plan (IRMP) development.

Rural Energy's goal is to see communities actively participating in and benefiting from increased access to energy; the sustainable and sound management, protection, rehabilitation, development, and utilization of natural resources; in the protection and enhancement of biodiversity; and in the pursuit of healthy environment.

Rural Energy is proposing to support communities capable of implementing a range of projects as offered by the Rural Energy Program. As willingness and capacity to implement IPP projects has been identified as a necessary precondition to inclusion in the program, communities have been initially screened for the existence of a technically feasible and financially viable IPP projects.

Rural Energy has worked to encourage broad participation in the program through the implementation of a nationwide Public Awareness program. Public Awareness activities have included i) the use of mass media; ii) meetings with government leaders, sector specialist, NGO representatives and others capable of conveying program information to potential partners, iii) meetings with community leaders from interested partner communities; and iv) distribution of printed materials.

*i) Mass Media: The program has sought to inform potential partners of Rural Energy's goals and objectives through the use of national and local media outlets.*

- Individual Interviews: Program senior staff provided radio and print media interviews describing the program's objectives and detailing what types of communities are eligible. Previous and on-going projects funded by USAID were highlighted as was the role of the US Government in making the programs possible.
- Press Events: The "Rural Energy Program Launch" event took place in February of 2006 where press kits including press releases, program print material, and information on the implementing partners were provided. Journalists from the print media, radio and television were in attendance as were representatives from the Government of Georgia, program collaborators and program staff.
- Press Releases: The program developed and distributed press releases detailing program goals and objectives. Follow-up releases focusing on project successes.



**ii) Meetings with Government Leaders, Sector Specialists, NGO Representatives and Others:** Through working with program partners including donors, IFIs, local NGOs, and collaborating project implementers, Rural Energy will hold a number of regional meetings with representatives from regional governing bodies, sector specialists, NGO representatives and others focused on educating the public on benefits offered by the program. Presentations were made at the regional governors' offices where gamebelis from throughout the territory were educated on the program.

**iii) Community-Level Project-Specific Meeting:** Rural Energy staff members visited over 47 prospective communities in 10 regions to evaluate the communities' capacity to implement program-specific projects and gauge willingness and ability to provide match. During such visits, community leaders received detailed information on how the program works and what types of assistance Rural Energy can and cannot provide. Brochures were made available which explain the program in detail and provide a foundation for mutual understanding. Initial site visits targeted communities identified under the Georgia Energy Security Initiative (GESI) project or those brought to the program's attention by donors, program implementers, local NGOs, etc. Site visits allowed community members to gain more information on the program while Rural Energy staff gathered needed information on social, economic, environmental and project-specific topics.

**iv) Distribution of Printed Material:** Program partners and other advocates have distributed printed materials including general program information and specific community selection criteria throughout the country. Printed materials have been made available at program partner offices including ABCO regional offices.

### 3. Community Capacity Review

Given the existing demand for reliable energy services and desire to more effectively manage locally available natural resources; many Georgian communities have demonstrated interest in participating as project partners. Over 100 communities were either approached directly or were referred to the program for consideration in Year One activities. The Rural Energy team visited 47 candidate communities in 10 regions during the first five months of program implementation; evaluating communities based on generally accepted evaluation criteria.

Although the program is well received throughout the country and many communities demonstrated keen interest in participating in the program, not all communities are capable of demonstrating the fundamental characteristics required for inclusion in the program. Below is the process used when evaluating and ultimately selecting partner communities. To ensure program success, a phased evaluation process has been employed which focused initially on technical feasibility and economic viability of community-based IPP projects. Communities with promising IPP projects are then evaluated on various socio-economic criteria. Below is an outline of the process and criteria used.

**STEP #1: Evaluate technical feasibility of establishing a Small Hydropower or Natural Gas IPP:** Proposed communities must have the capacity for the construction of an energy intervention capable of community-wide impact. These are defined under the program as either SHP or natural gas pipeline extension projects. Communities unable to propose SHP or natural gas projects due to technical reasons were not considered for program support. The absence of local rivers suitable for hydropower or lack of an operating natural gas trunk line within a 20-kilometer radius precluded communities from inclusion in the program.

**STEP #2: Evaluate IPP economic viability:** In addition to being technically feasible, the proposed IPP projects need to be financially viable. To analyze financial viability, the program conducted simple business/project profiles in promising communities examining facility construction/rehabilitation costs and potential increase in generation capacity. Profiles included information on IPP project costs, management capacity on project owners, estimates on community contribution, and preliminary estimates on needed program grants. Communities proposing projects with questionable project ownership, poor financial viability, or with significant grant needs were culled from the list of potential program partner communities.

**STEP #3:** Evaluate socio-economic and natural resource related criteria: Communities that successfully meet criteria as stated in steps one and two were then reviewed for consideration as Rural Energy program partners. Program community mobilizers met with local government leaders, community representatives, and leading businessmen to gather needed information to respond to the following indicators:

**Previously identified communities:** During Year One, various communities were approached by Rural Energy staff that had been identified through the GESI project.

**Location of communities:** Projects will be considered from any part of Georgia excluding urban centers such as Tbilisi, Kutaisi, Rustavi, Batumi, Poti, etc. Only communities located outside of urban centers were considered. Priority was given to communities located in USAID priority areas including Samtshke-Javakheti, Kvemo Kartli, Adjara, Racha and others. In addition, special consideration was given to communities proposed where existing energy sources are heavily polluting and where the community is located in an environmentally sensitive area (nearby critical watersheds, part of major catchment area).

**Need for improved power supply:** Communities with poor delivery of grid-based energy supply and dependent upon diesel generators, wood fuel, animal waste, kerosene or other inefficient and/or polluting fuel sources received priority over communities which already enjoy reliable and affordable energy supply.

**Capacity to distribute power locally:** Communities proposing IPP projects with the capacity to distribute energy locally received priority over projects where no local improved access to power is experienced.

**Capacity to use energy for income generation, increased employment and poverty alleviation:** Communities with proven capability to utilize newly available energy for productive purposes and, therefore, increase income generation in the community received priority over those where no defined (or poorly defined) economic benefit exists.

**Creditworthiness of local partners:** Where credit financing plays a role, the communities' willingness and capability to receive and repay credit financing was assessed. As such, communities with populations having limited outstanding debt, previous success in obtaining and repaying credit, and proposing IPP projects capable of generating sufficient cash flow to repay proposed loan amounts received priority.

**Willingness and ability to contribute to project costs:** Communities with demonstrated capacity to mobilize outside resources received special priority. This community match, equity investment, leveraged resources from government entities and donor organizations, and credit financing.

**Ethnic make-up of communities:** Communities with proven Internally Displaced Persons (IDP) populations or significant ethnic or religious minorities (with special focus on Muslim populations) received priority.

**Indigenous and local skills directly related to the project:** Communities capable of demonstrating previous project management experience and a local population with the technical skills necessary to implement a significant portion of the proposed projects (i.e., energy knowledge, construction, natural resource management skills) received priority over communities that must import labor.

**Evidence of formal or informal local organizations:** Communities with established and operating Community Based Organizations (CBOs) which have previous experience implementing successful projects and managing donor funding received priority over those communities with no existing community organizations. (Note: In cases where informal organizations have been operating and community members have demonstrated a commitment to implementing projects, assistance will be provided to formally register the organization.)

**Ongoing or previous energy or Natural Resource Management-related activities in the area:** Communities that have in the past or are currently taking initiative to implement other energy and/or natural resources management-related activities received priority over less active communities.

**Existence of collaborating organizations to help communities in implementing energy and/or natural resources management activities:** Communities with active collaborating organizations including NGOs, government entities, other donors or donor-funded contractors, or any other outside resource capable of playing an active role in project implementation received priority.

Existence of organizations implementing non-related programs and capable of acting as competitors for finite time and resources within the community: Communities where unrelated projects are either currently operating or are expected to begin operation in the near future and which have the demonstrated potential to directly compete with the Rural Energy Program for limited community resources will not be considered.

**Endorsements by the local government officials, religious groups, IDP associations, or other credible organizations or individuals:** Communities capable of obtaining endorsements and/or active support from various government and non-governmental organizations received priority over those unable to do so.

## Annex 2

### Updated Information on Selected Communities and HPPs

**Community Name:** Kekhijvari village, Kareli district, Shida Kartli

**HPP Project Name:** Kekhijvari Small Hydropower Plant

**I. Community Summary:** Kekhijvari community has 480 households and is located on the Dzama River gorge with the right tributary of the Mtkvari River coming down from Trialeti Mountain, 100 km from Tbilisi. The community has proven experience implementing community development projects, specifically was GESI partner community in NG distribution network establishment. CBO "Dzama" is actively involved in all community development activities. The community consists of Georgians. The community has reliable electricity supply from the UEDC, however, is interested in supporting the HPP so as to 1) develop a significant employer in the region, 2) have access to lower-cost electricity, and 3) reduce wood cutting. Stakeholders including the local government, community members, and the current facility owner are all supportive of the proposed project. There are no previously identified organizations or individuals that actively oppose the proposed IPP project or the Rural Energy Program overall.

**II. HPP Project Summary:** Dzama HPP was built in 1945 and operated for 23 years. Locally generated electricity was supplied to 10 villages of Kareli region, two fleets of tractors and cars and partially to Agara sugar factory. In 1968 the generation set was dismantled due to overall stoppage of operation of SHPs. The SHP was not operating for the period from 1968 to 1996. In 1996, "Shida Kartli Resources" Ltd. rehabilitated Dzama HPP and installed the gen-set. Dzama HPP operated for 18 to 24 months and, in fact, failed to maintain the required frequency. Currently, the plant is devastated, equipment removed and the facilities and constructions ruined.

Total cost of proposed rehabilitation is currently estimated at \$303,838, providing an investment to increased generation ratio of \$1215/kW.

**III. Community Eligibility:** The community of Kekhijvari meets the fundamental prerequisites for the Rural Energy Program, namely the existence of an IPP project that is technically and economically viable.

#### **IV. Potential Impact Summary:**

The project will result in the following:

- Increased generation capacity: 1 X 250 kW
- Increased power generation in annual kW/h: 2.12 mln
- Increased jobs: 10
- Improved social conditions: Yes

**Community Name:** Pshaveli village, Telavi district, Kakheti

**HPP Project Name:** Pshaveli Small Hydropower Plant

**I. Community Summary:** Pshaveli Community with 1,052 households registered in Pshaveli community, with total population of 2,888 is located between the left bank of the Alazani River and the Caucasus Mountain range, approximately 190 km from Tbilisi. The community has proven experience implementing community development projects. CBO "Gza" is actively involved in all community development activities. The community consists of Georgians. The community is within the Kakheti Energy Distribution Company area and, as most of the rural areas, is in need of increased regional generation as is mainly grid related. Power can be supplied to the community; however, locally generated power is anticipated to be fed to the grid.

Electricity deficit slows business activity in the community, as most of the small businesses (processing, manufacture) need cheap and stable power supply. Rehabilitated facility will support SME and local infrastructure development.

Stakeholders including the local government, community members, and the current facility owner are all supportive of the proposed project. There are no previously identified organizations or individuals that actively oppose the proposed IPP project or the Rural Energy Program overall.

**II. HPP Project Summary:** A 500 kW SHP rehabilitation project is proposed for this community. Proposed rehabilitation activities include the following:

Total cost of proposed rehabilitation is currently estimated at \$490,000, providing an investment to increased generation ratio of \$982/kW.

**III. Community Eligibility:** The community of Pshaveli meets the fundamental prerequisites for the Rural Energy Program, namely the existence of an IPP project that is technically and economically viable.

**IV. Potential Impact Summary:**

The project will result in the following:

Increased generation capacity: 1 X 500 kW  
Increased power generation in annual kW/h: 2.82 mln  
Increased jobs: 15  
Improved social conditions: Yes

**Community Name:** Nergeti village, Bagdati district, Imereti

**HPP Project Name:** Nergeti Small Hydropower Plant

**I. Community Summary:** Nergeti is a community of 165 households with total 660 persons residing at Japaridzes' Settlement. The settlement borders town of Bagdati, approximately 260 km from Tbilisi. The community is within the United Energy Distribution Company area and, as most of the rural areas, is in need of increased regional generation as is mainly grid related. Power can be supplied to the community; however, locally generated power is anticipated to be fed to the grid. Headworks rehabilitation will ensure uninterrupted irrigation during irrigation season through 32 km long irrigation canal serving 6 villages. This will eventually enhance agricultural production and result in population income increase. The community has proven experience implementing community development projects. CBO "Ubani 2004" is actively involved in all community development activities. The community consists of Georgians. Stakeholders including the local government, community members, and the current facility owner are all supportive of the proposed project. There are no previously identified organizations or individuals that actively oppose the proposed HPP project or the Rural Energy Program overall.

**II. HPP Project Summary:** A SHP rehabilitation project is proposed for this community. Built in 1950 the Nergeti SHP was functioning until 1970 generating 200 kW/h. The SHP was reconstructed in 1964. Currently, installed capacity is 10 kW owned by Khanhesi 2 LTD. 20 households of the community are supplied with electricity free of charge during October-March period. Khanhesi 2 LTD supplies electricity to refrigerator systems for the rest of the year. The hydro power station does not meet community demands. Solution is to restore SHP Khanhesi 2 with capacity of 300 kW. This is technically feasible considering existing water fall height and water volume. Existing hydro power station building and communications are maintained. This will solve power supply problem not only for 165 households, but also for additional 235, totalling 400 households. Proposed rehabilitation activities include the following:

Total cost of proposed rehabilitation is currently estimated at \$310,962, providing an investment to increased generation ratio of \$1,042/kW.

**III. Community Eligibility:** The community of Nergeti meets the fundamental prerequisites for the Rural Energy Program, namely the existence of an IPP project that is technically and economically viable.

**IV. Potential Impact Summary:**

The project will result in the following:

Increased generation capacity: 1 X 300 kW  
Increased power generation in annual kW/h: 2.62 mln  
Increased jobs: 11  
Improved social conditions: Yes

## Annex 3

### Information on GESI project Credit Facility and Guarantee Fund

In August of 2003, PA Consulting, USAID implementing partner for GESI project, established Georgia's first credit facility designed specifically to support the establishment of new and expansion of existing small-scale rural independent power producers (IPPs). Established in partnership with Bank of Georgia, the GESI Guarantee Fund provides long-term, low interest loans to energy generators and rural businesses looking to put newly available energy to productive purposes.

Private entrepreneurs and Community-Based Organizations (CBOs) have successfully received approximately \$500,000 in financing in the last 12 months alone. Projects funded include the construction of a 100kW small hydropower plant in rural Samtskhe-Javakheti, the extension of natural gas pipelines in rural Gori (25 kilometers) and rural Shida Kartli (15 kilometers), and the financing of several energy consumers looking to start or expand energy intensive businesses (greenhouses, milk processing facilities, bakeries, etc.). Loans range from as low as \$1,850 to as much as \$150,000. Loan terms generally include: Interest rates between 8% and 12% (8% for generators and 10%-12% for energy consumers); Collateral equal to 100% of the loan value; And Duration up to seven years.

PA Consulting hopes to renegotiate the maximum duration for loan funding to ten years in the coming quarter.

**Budget**

EXPECTED OUTPUTS	Key Activities	Responsible Party	Fund	Donor	Budget Code	Description	PLANNED BUDGET (USD)					
							2006 Jan-Aug	2006 Sep-Dec	Total 2006	2007 Jan-Jun	Total	
Promoting the Use of Small Hydropower Resources at the Community Level	1. Project management and reporting	GoG	30000	Norway	71200	International Consultants	14,400.00	0.00	14,400.00	0.00	14,400.00	
		GoG	30001	Norway	71400	Service contracts-Individuals	7,495.76	8,469.79	15,965.55	12,704.69	28,670.24	
		GoG	30002	Norway	71300	Local Consultants	3,495.69	11,067.39	14,563.08	11,130.30	25,693.38	
		GoG	30003	Norway	71600	Local travel (DSA)	66.00	2,640.00	2,706.00	858.00	3,564.00	
		GoG	30005	Norway	72200	Equipment and Furniture	15,837.43	3,750.00	19,587.43	1,400.00	20,987.43	
		GoG	30006	Norway	74500	Miscellaneous Expenses	2,305.80	2,250.00	4,555.80	14,708.59	19,264.39	
		GoG	30011	Norway	73100	Rental & Maintenance-Premises	0.00	1,750.00	1,750.00	250.00	2,000.00	
						<b>Sub-total</b>	<b>43,600.68</b>	<b>29,927.18</b>	<b>73,527.86</b>	<b>41,051.58</b>	<b>114,579.44</b>	
		2. Rehabilitation/ construction of three Hydropower Plants	GoG	30012	Norway	72600	Grants	0	530,206.00	530,206.00	289,794.00	820,000.00
						<b>Sub-total</b>	<b>0.00</b>	<b>530,206.00</b>	<b>530,206.00</b>	<b>289,794.00</b>	<b>820,000.00</b>	
						<b>TOTAL</b>	<b>43,600.68</b>	<b>560,133.18</b>	<b>603,733.86</b>	<b>330,845.58</b>	<b>934,579.44</b>	
						UNDP CO Admin Costs	3,052.05	39,209.32	42,261.37	23,159.19	65,420.56	
					<b>GRAND TOTAL</b>	<b>46,652.73</b>	<b>599,342.50</b>	<b>645,995.23</b>	<b>354,004.77</b>	<b>1,000,000.00</b>		