

Country: **TAJIKISTAN**

UNDAF Outcome(s)/Indicator(s):
(Link to UNDAF outcome., If no UNDAF, leave blank)

Overcoming mountains – Natural resources sustainably managed and fewer persons killed or affected by disasters

Expected Outcome(s)/Indicator (s):
(CPAP outcomes linked to the MYFF goal and service line)

Same as in UNDAF

Expected Output(s)/Annual Targets:
(CPAP outputs linked to the above CPAP outcome)

Managing energy and environment for sustainable development

Implementing partner:

DIM (Communities Programme) in close collaboration with the Ministry of Energy, Barki Tojik and other stakeholders

Out of 7.1 million population of Tajikistan 73% live in rural areas. It is estimated that over 1 million people in Tajikistan, primarily in rural areas, have little or no access to an adequate energy supply, particularly during the winter. Today over 95% of Tajikistan's power generation capacity is based on hydro electricity. However, the current infrastructure is old and no significant investments have been made in the sector over the past 20 years. Almost every winter the country is faced with an energy crisis and is dependent on unreliable electricity imports from neighbouring countries. The absence of a reliable electricity supply has forced large parts of the rural population to increasingly turn to the burning of conventional biomass and fossil fuels to meet their energy needs. The related cutting of forests, loss of biodiversity, degradation of soils, and deterioration of indoor air quality, is putting further pressure on rural communities in Tajikistan, which are already among the poorest in the world. At the same time, the attempts to develop significant income-generating activities and to raise living standards in rural communities have largely failed in part due to the absence of a reliable electricity supply.

The overall development objective of the project is to reduce widespread poverty in Tajikistan by enhancing socio-economic development and increasing household incomes through the promotion income-generating end-use applications of renewable sources of energy in areas with either unreliable and limited power supply or no supply at all.

This project is planned for four years and has an indicative budget of 3,500,000 USD. At the beginning of the project UNDP will allocate \$1.2 million from its core resources. The rest of the funding is planned to be obtained from other donors.

Programme Period: **48 months**
Project Title: **Promotion of Renewable and Sustainable Energy Use for Development of Rural Communities in Tajikistan**
Project Duration: **4 years**
Management Arrangement: **Direct Implementation Modality**

| | |
|----------------------|----------------------|
| Total Budget | USD 3,500,000 |
| Allocated resources: | 1,200,000 |
| • Regular (TRAC) | 1,200,000 |
| Unfunded budget: | 2,300,000 |

Agreed by Government of Tajikistan: _____

 20.07.09

Agreed by UNDP: _____

 17.07.09

17.07.09





THE GOVERNMENT OF THE REPUBLIC OF TAJIKISTAN
&
THE UNITED NATIONS DEVELOPMENT PROGRAMME

PROMOTION OF RENEWABLE AND SUSTAINABLE ENERGY USE
FOR DEVELOPMENT OF RURAL COMMUNITIES IN TAJIKISTAN

SUB-PROJECT DOCUMENT

(UNDER UMBRELLA OF COMMUNITIES PROGRAMME)

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I. PURPOSE AND BACKGROUND

Out of 7.1 million population of Tajikistan 73% live in rural areas. It is estimated that over 1 million people in Tajikistan, primarily in rural areas, have little or no access to an adequate energy supply, particularly during the winter. Today over 95% of Tajikistan's power generation capacity is based on hydro electricity. However, the current infrastructure is old and no significant investments have been made in the sector over the past 20 years. Almost every winter the country is faced with an energy crisis and is dependent on unreliable electricity imports from neighbouring countries. The absence of a reliable electricity supply has forced large parts of the rural population to increasingly turn to the burning of conventional biomass and fossil fuels to meet their energy needs. The related cutting of forests, loss of biodiversity, degradation of soils, and deterioration of indoor air quality, is putting further pressure on rural communities in Tajikistan, which are already among the poorest in the world. At the same time, the attempts to develop significant income-generating activities and to raise living standards in rural communities have largely failed in part due to the absence of a reliable electricity supply.

The *overall development objective* of the project is to reduce widespread poverty in Tajikistan by enhancing socio-economic development and increasing household incomes through the promotion income-generating end-use applications of renewable sources of energy in areas with either unreliable and limited power supply or no supply at all.

The *development goal* to which the project action aims to contribute towards is to reduce widespread poverty in Tajikistan by enhancing socio-economic development and increasing household incomes through the promotion of income-generating end-use applications of renewable sources of energy in areas with either unreliable and limited power supply or no supply at all. The project is further expected to have a positive impact on human health by reducing indoor pollution caused by the burning of fuel wood, pressed dung and hard coal in low-efficiency stoves. Moreover, it is anticipated that the project will decrease the burden in particular of women and children to collect large amounts of fuel wood.

The *environmental goal* to which the project action aims to contribute towards is to substantially and sustainably reduce greenhouse gas (GHG) emissions from combusting conventional biomass and fossil fuels and to enhance GHG sinks in Tajikistan by identifying and removing barriers to the development of renewable sources of energy for social and productive uses by rural communities which would otherwise be forced to rely on burning biomass and fossil fuels to satisfy their energy needs. At the same time, by reducing the unsustainable cutting of highly valuable mountain forests the project is expected to contribute to the conservation of biodiversity, a reduction in soil loss and natural disaster risks caused by erosion, as well as the mitigation of negative impacts on the country's critical water resources.

The *immediate objective* which the project aims to achieve is to significantly reduce the life-cycle cost of electricity supply in remote rural areas by developing affordable and sustainable delivery models and financing mechanisms for the development of small-scale renewable energy projects aimed at improving conditions of social infrastructure and additional income generation, supporting implementation of renewable energy projects and development of productive and viable end-use applications of renewable energy, and implementing institutional strengthening and capacity building measures related to renewable energy.

Through partnerships with District and Jamoat authorities, Jamoat Resource and Advocacy Centers (JRCs), Ministry of Energy, Barki Tojik and Committee on Environmental Protection and Forestry, the project will target local communities, community based organizations (JRCs), Jamoat and village authorities, rural health centers/hospitals and schools, small industries and other rural community members/institutions with currently inadequate access to energy. Final beneficiaries of the project will be JRCs, Jamoat and village authorities, rural health centers/hospitals and schools, small industries and other rural community members/institutions with currently have inadequate access to energy.

The project will cover specific districts in Rasht Valley, Sogd Province and Khatlon Province and demonstration projects will be selected depending on critical energy demand and energy generating opportunities in these areas.

II. SITUATION ANALYSIS

It is estimated that from 0.5 to over 1 million people out of Tajikistan's total population of 7.1 million¹ lack access to an adequate energy supply. Thereby the rural population is faced with more severe shortages of electricity than the urban population. During the winter period, the problem is linked with the seasonal disruption of the electricity from Uzbekistan. Furthermore, the problem is exacerbated by the condition of the power supply systems in Tajikistan, characterized by voltage instability, service interruptions, poor dispatch and communication systems, low cost recovery and high losses. Today over 95% of Tajikistan's power generation capacity is based on large hydro power plants, with strong seasonal variations in power production, being the lowest during winter (October – April/May), when the demand is at the highest. As a result, while the vast majority of the villages are connected to the grid, electricity is only supplied for 2 to 6 hours per day during the winter months (1-3 hours in the morning and 1-3 hours in the evening). In summer, power supply is generally more reliable, however, a significant number of remote, non-connected rural communities remain without any electricity supply throughout the year.

Fossil fuel resources are relatively limited and poorly developed in Tajikistan. Although coal reserves are abundant in certain mountainous areas, they are hardly utilized due to a lack of access roads and high development costs. As such, the country relies on the import of fossil fuels from abroad. Besides bad roads, a limiting factor is the high costs of imported fuels, which rural residents and public institutions in most cases are unable to afford.

The situation described above has forced the rural population, to partially substitute for lack of electricity, to look for alternative local energy resources for cooking, lighting, and commercial use, including conventional fuel wood and, to a lesser extent, dried dung for meeting their basic energy needs. From the environmental point of view, this has been disastrous with the unsustainable cutting of highly valuable mountain forests. Cutting these forests contributes to a loss of biodiversity and of greenhouse gas (GHG) sequestration/storage capacity, and the resulting erosion leads to a deterioration of natural resources and an increase in natural disaster

¹ Estimate of July 2005, The World Factbook, CIA