



# Accessing clean energy *in low income communities*

## Introduction

These case studies demonstrate ways in which communities in transitional economies have engaged with local authorities in order to successfully achieve access to energy infrastructure services. They have been generated as part of a research project investigating the impact of energy sector reform processes on low income urban communities. The project is funded by the UK Department for International Development (DFID). The project presents evidence on the extent to which communities have been affected by changes to date in energy industries, and explores how households are likely to respond to increases in costs in the future. The case studies complement the field survey work by giving examples of how marginal communities have managed to extend their choice of fuels

## ALBANIA

### Background

Like many communities on the outskirts of Tirane, Allias has experienced a steady increase in population over the last ten years as people from all over the country come to look for work in the capital. The local government authorities have responsibility for planning, which is a difficult task given the informal nature of many settlements. The electricity utility, KESH, is responsible for providing electrical infrastructure, although there is no formal obligation on it to extend infrastructure to informal communities. Throughout Tirane, KESH have been unable to provide electricity to new settlements because they lack access to capital, and so households remain dependent on alternative fuels and illegal connections, where possible.



It can be difficult for diverse communities in peri-urban areas to work together.

The experience of Allias provides an example of where the utility itself has successfully engaged with the community directly to negotiate a solution to the infrastructure problem, which has resulted in the installation of five transformers to supply local neighbourhoods.

### The project, process and people

The families in the area are generally poor, having arrived from the rural and mountainous regions of Albania after the changes of 1990. They were faced not only by a lack of electricity, but also a lack of

other basic infrastructure needs. Even if families had connected to the existing low voltage (LV) grid (illegally or legally), the voltage level would have been so low that no electrical appliance would have worked. It is common practice for households to make illegal connections, but voltage drop is a major concern – amongst both legal and illegal consumers. There was, therefore, a strong motivation amongst the communities to get a robust local distribution network installed.

When some local residents approached KESH to request a connection, they were told that it was not possible because of the lack of transformers, and neither was there a plan to extend the network into the neighbourhood. It was after a number of residents got together to make a combined representation to KESH that the utility entered into dialogue on how a local network could be installed.

After long discussions, it was agreed that the situation could be resolved through collaboration between KESH and residents. KESH would supply the families if they would invest in the local hardware - the medium voltage (MV) connection, cabin and LV cables. The formula proposed and applied was that 40 families would collaborate together to collect the money to pay for the construction of an aerial transformer cabin together with the poles from the MV line to the cabin, the cable from the cabin to the houses, and other necessary electrical equipment.

When the cash had been collected, the group of families then presented a written request to their local KESH branch after which the electricians of KESH visited the area to define the point of connection; KESH subsequently undertook the technical design. A private company was then selected by the community to perform all the works.

On completion, the installation was handed over to the local KESH branch, which prepared the contract of supply. Households had to enter into a supply contract and to pay a connection fee in the normal way, although a reduced connection fee was negotiated. The electrical meter is given free to households under to contract, but note that KESH are receiving support from a number of donors to implement a programme of installing meters – something that has been identified as a matter of priority if the company is to improve its management and recovery rates.

Having established a mechanism for raising the capital to pay for extending infrastructure in resettlement areas, KESH are repeating the formula in other parts of the city.

## Financial Details

The total investment sums up to 400,000 leks for each group of families, equivalent to 10,000 leks per family. The reduced connection fee is 12,000 leks compared with the 18,240 leks of normal connection fee, making a total household investment of 22,000 leks. This compares with a typical monthly family income of around 30,000 leks. This indicates that poor households are paying a 20% premium to access electricity. It also shows that there is a strong willingness to pay for a good quality electricity supply, even amongst low income communities.

## Outputs

Allias Area is under the responsibility of Agency no. 2 of Tirana Branch of KESH sh.a. The area is supplied in MV from the 35/6 kV substation of "Karbiti" with two lines. The lines are no. 50 (200 A) and no. 46 (150 A).

The transformers used are three phase, 100 kVA (necessary to supply 40 families) and are pole mounted. The cable from the cabin to the houses is coaxial (to exclude the possibility of illegal connections) 2 x 6 mm<sup>2</sup>. The design capacity is 4-5 kW per household, and it is regulated by current limiting devices.

## Key Features

- This case study illustrates a financial model for providing power to poor and marginalized families in suburban areas, which has proven effective in cities in Albania. In the absence of any formal obligation on KESH to provide supplies to low income households, the model demonstrates that providing power to low income communities can be profitable.
- Low income families are effectively paying a premium for access to electricity.
- The utility company and the consumers entered into negotiations directly, without the need for an NGO or other intermediary. This was made possible by a willingness of negotiate on behalf of the local branch of the utility. On behalf of the consumers, sufficient communal spirit existed within the Allias community to permit households to negotiate collaboratively with the utility. More impressive is the fact there was evidently sufficient trust amongst households to raise the cash needed. This needs to be understood in the context of widespread distrust within Albanian society, especially of authority structures, and a general reluctance for people to work together following years of communism and the pyramid selling scandal of 1997. Re-settlement communities in capital cities are generally characterised by a lack of coherence as they tend to be made up of disparate social groups from all over the country.
- It is often wrongly perceived that poor families need only a low electrical design load. The case study shows that KESH and residents agreed on a design load of 4 or 5 kW. It needs to be borne in mind that informal settlements of today are formal settlements of tomorrow, and that demand only tends to increase, as people accumulate appliances and become more financially established.
- Low income families are prepared to pay for good quality of electrical supply. It is common for households in informal settlements to make illegal connections (or not to pay bills), which causes voltage drop problems. The Allias example demonstrates that a good quality of supply is regarded as a high priority.

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## KYRGYZ REPUBLIC

### Background

In 1989 there started an explosion of new settlements around Bishkek, and one after another new blocks of houses appeared. This process required changes in both the economic and political environment. The political situation changed because of the fact that settlers demanded that the government observe their rights and interests. Advocacy campaigns and public activities encouraged the Kyrgyz Government to adopt changes and amendments to the national legislation on settlements in suburban areas. However, the state system of housing and communal services was not able to provide infrastructure services that normally accompany urban developments. As the number of new settlements rose day by day, so did the problems.

There is strong local government in Bishkek, but after the soviet sytem people are not accustomed to thinking that they can have an impact on governance. People in new settlements are drawn from all regions of the country and have different traditions, culture, and preferences, making it difficult for them to build trust and collaborate together.

## The need for strengthened electrical distribution in Ak-Bosogo

Ak-Bosogo settlement was established in 1992 with 150 new households. In 1994, with the help of State Program on support for new settlements, a transformer (150 kV) and distribution lines were installed. As households accumulated appliances, the transformer became overloaded and started to break down. In 1998 there was another flow of settlers to Ak-Bosogo and by the end of this year the local transformer was serving more than 250 households. Low voltage became the main problem in the village, especially during wintertime, and villagers had to use coal and wood for heating. This period was noted as a harmful time because of mass woodcutting.



New transformer cabin in Ak Bosogo

## The Project, Process, and People

Since 1989, 25 new settlements have been established around Bishkek. The research group of the NGO, Arysh, made a preliminary assessment and identified Ak Bosogo as the poorest settlement. A programme on forming and developing a self help group (SHG) then started in January 2000.

Arysh is a local NGO, formed in 1989, which mobilizes resettlement communities to help solve their problems. The majority of Arysh representatives are settlers themselves and are, therefore, aware of the problems faced by settlers receiving no support from the government. The SHG model for community mobilization was adopted from Jeishry Mukerdji, an expert from India who provided them with training in the approach. The SHG members are to be socially similar with similar problems, to live on the same street/community, and are required to make savings.

**In Ak Bosogo, Arysh worked to build the capacity of the villagers by conducting a wide range of trainings and seminars.**

Training was funded through the Soros Foundation, and covered topics such as organizational development (e.g. formation of SHG), financial skills (e.g. micro credit and fundraising), participation of the poor (e.g. PRA methods, lobbying and advocacy), and project management (e.g. strategic planning, project design).

The local community applied several times to the local government for a bigger transformer and new distribution lines, but got no response. In July of 2000 members of local SHG wrote a letter of appeal to both rayon and city administrations, but again there was no answer.

**Then members of SGH decided to lobby the National Parliament, and organized a public picket near the State Administration House.**

The announcement, connected to this picket, was delivered to appropriate departments, such as rayon and city administrations, and the State Parliament. This information produced the desired affect, and in August the State Commission arrived in Ak Bosogo village to observe and consider local problems, after which they promised to install a new transformer by the end of October 2000. As the



electricity company was at the time part of the government structure, the State Commission had the power to instruct the electricity company to do the necessary work.

A 680 kV transformer and additional poles for missing electric lines were installed. The poles and 1600 meters of electric wire were provided by the Public State Administration on Capital Construction (PSACC), part of the city administration of Bishkek. Arysh mobilized local people to provide labour to erect the poles. By mobilizing internal resources, the villagers themselves made agreements with a local building company to implement all the building-technical work in installing new power lines. The PSACC also paid the workers of the building company for their services, but an interesting feature of the project was that the building company did the work on credit, and only got paid after the work was completed. The local community contributed labour, and organized food for the workers.

It is worth noting the role played by the head of the local village council, Kazybaev Narynbek. He was very quick to understand the value of SHG programs in villages, and he realized that the work of Arysh was important in helping the local community to solve their problems. This made him a good partner for Arysh, and he has become an active representative of local government in other Arysh projects, in which he has helped promote dialogue between local resettlement communities and different departments of the state government. Members of Arysh note that it was Kazybaev Narynbek who understood the value of participatory approaches in building up trust and support on behalf of the residents.

## Output

100 new households were provided with power lines, and 680 kV transformer was installed. The installed capacity is now 830 kVA, supplying 250 households, equivalent to 3.3 kVA per household, which compares with an initial capacity provided to each household of 1 kV.

## Ongoing relationships

In the beginning of its activities NGO "Arysh" had very weak partnerships with PSACC, but during a short time Arysh proved that settlers want to contribute to national programs aimed at poverty reduction and state prosperity, and that the NGO was effective in helping settlers solve their own problems. They now have a clear mechanism of cooperation with each other: the NGO conducts a needs assessment to reveal problems in a community, then they provide training to develop and implement various social and economic projects which attract additional investments into the community, and PSACC pays for contractor services in projects.

Every year PSACC adopts a development plan to improve conditions in the 25 new settlements around Bishkek. After the plan has been approved by the city administration, representatives of PSACC hold a meeting with Arysh to make the NGO familiar with the new plan. PSACC is unable to cover all the settlements simultaneously because of the limited budget. At these meetings, the two institutions come together and develop plans on participatory activities, after which the NGO starts working in those settlements that are not listed in the annual plan. As a result of collaborative working, PSACC implements its plan in one set of villages, and Arysh in others, meaning that much more can be achieved with limited resources.



Local NGOs provide capacity building to enable communities to engage with government structures for the provision of a range of infrastructure services, such as roads.

## The President of Kyrgyz Republic declared 2004 year to be the year of Social Mobilization, so state structures have started being actively involved with non-governmental organizations

At the moment, only NGOs and community-based institutions have expertise in social mobilization. Since January 2004 the rayon administrations have applied to Arysh more often than before for help in forming partnerships with local SHGs.

### Key Features

- A budget for doing the infrastructure develop project exists within government structures, and there is a statutory obligation on local government to provide these services. There is, therefore, a legal basis from which to lobby for provision of services.
- People have little understanding of democracy and the fact that, as the electorate, they have power. The value of the approach of NGOs like Arysh and Erayim is in demonstrating techniques to use in lobbying government structures, and the success that can be achieved.
- The training to communities was not task specific – they provided training in general community mobilisation skills, which means that the community are equipped to find solutions to any type of problem arising.
- NGOs generally employ highly educated professionals who have the capacity to learn how decision making structures work, what the legal provision is, and to develop effective lobbying procedures. They can, therefore, play an important role in explaining to citizens how government processes work.
- The head of the local village council fulfilled the role of ‘champion’ for the project. This was an individual, operating within the existing government structure, who caught a vision for what could be achieved through the community mobilization approach, and was instrumental in facilitating the subsequent collaboration between the various parties.
- The community mobilization approach followed is directly in line with government policy. Even if there are no formal procedures that government institutions need to follow, a presidential decree will still influence the extent to which local authorities are willing to engage with NGOs.

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# MOLDOVA

## Background

Ialoveni is a settlement of around 19,000 inhabitants on the outskirts of the capital, Chisnau. Many residents live in blocks of flats which were designed to be served with electricity and district heating. However, since the collapse of the communist system, the quality of district heating services has deteriorated, due to poor and uncertain management. Electrical connections have also become unreliable, partly due to the utility policy of disconnecting entire blocks of flats when a certain number of residents fail to pay their bills. As a result, most families relied on wood and coal for their energy requirements which is inconvenient, and causes health and pollution problems.

A local NGO, Agape, worked with a range of stakeholders towards the installation of a gas pipeline which now serves 650 families.



Many people live in rooms in hostels (rented or private)

## The Project and Process

Agape is involved in a range of initiatives aimed at building the capacity of vulnerable families to improve their livelihoods. Ialoveni was identified as a particularly poor area where there was not only great need, but also potential for improvement in household conditions. On entering the community, they carried out a needs assessment exercise involving a household survey of 200 families.

Results clearly showed the perceived importance of infrastructure services — priority issues were gas and water services, followed by roads.

When discussing the findings with the school principal from the targeted neighbourhood, he suggested that the NGO could work together with the community on the gas infrastructure project which had ground to a halt and caused a great deal of ill feeling in the community. The community had already identified the potential benefit of installing gas distribution infrastructure, and had formed a 'users association' which had helped raise the money from amongst its members to build the local network. The gas main passed nearby the community, and there remained a need to build a pipe to cross the 700m stretch between the local network and the gas main.

Agape facilitated discussions between the local government (mayor) and the community (users association), and as a result some funds were raised to pay for the pipe. However, there remained a great deal of distrust, such that the residents did not believe that the utility would install the pipe even if they did hand over the cash. In addition to promoting dialogue, Agape provided a small financial contribution (approximately \$5,000) which proved instrumental in easing the deadlock and enabling the construction of the pipeline to go ahead. Once agreement had been reached, it only took around 5 months to complete the project.



People in private houses with traditional stoves can use solid fuels for heating and cooking

Under the local pricing structure, the piped gas is not only more convenient, but also cheaper than using wood or coal, especially for cooking. Agape have also helped 30 particularly poor families to connect to the local network and benefit from lower costs and better conditions in the home.

## Sharing the experience

Residents talk publicly about the positive impact of the project, and as a result residents in another sector of the town have decided to follow the example set by the Agape communities, and to engage with the local authorities to request the installation of a local gas network. They were able to benefit from the experience already gained, and managed to complete their project in a shorter time.

## Key lessons Learned / Features

- Lack of trust is a major obstacle to any community development initiative. Without trust, residents will not participate, and participation is essential for the successful design and implementation of any project. Community mobilisation, a role carried out by Agape in this instance, can be an effective means of overcoming the obstacles and building trust.
- Transparency is needed to help build trust. Civil society organisations (like Agape) have a role to play by engaging with decision making processes. They are well placed to build relationships with communities and gain the trust of residents; they can then act as an intermediary between communities and authorities. CSOs can also be valuable in helping residents understand how decision making processes work, and guiding citizens in how to participate in democratic processes. However, they can only do this if the authorities are willing to engage with the community; this is often contrary to common practice but can be overcome through a mixture of education and the enthusiasm of visionary individuals. There are a number of organisations active in building the capacity of government structures to engage with citizens e.g. Urban Institute, Soros Foundation.
- One of the individuals who was instrumental in making the project proceed successfully was the mayor. He not only took an interest in the needs of the residents and the potential value of the gas network, but was also positive in his attitude towards participation of the community, and was prepared to allocate some funds to the project.
- Infrastructure is a foundation for community development programmes.
- Now that the infrastructure is present, it has effectively become part of the utility network and customers need to pay a connection cost, as elsewhere on the network; this continues to act as a barrier to connection for poorer households. It remains to be seen whether models for community participation can be developed to include connection costs (the meter).



Without gas, households tend to rely on electricity for cooking

## Compiled by:

Agape, Chisnau, Moldova



## ANALYSIS OF CASE STUDIES

The case studies from Kyrgyzstan and Moldova show how NGOs can play an important role in improving access to infrastructure services amongst vulnerable urban communities. In each case they have mobilised communities to engage with government institutions in order to secure the provision of energy services. In Bishkek the NGO developed the capacity of the community to the extent that they were able to successfully lobby institutions to improve services. In Moldova, the NGO facilitated successful negotiations between a range of stakeholders after progress on a project came to a halt. The case study from Albania presents an alternative approach in which community members approached the utility to request electrical connections, and the utility decided to engage directly with them, working towards a feasible solution. Some of the key features demonstrated in the case studies are summarised here:

- Each of the case studies demonstrates the extent to which **participatory approaches are being mainstreamed into good governance** – through NGOs or through good practice on behalf of utilities themselves. They also demonstrate a variety of ways (albeit similar) in which NGOs can make a valuable contribution where public institutions lack the capacity and resources to run community mobilisation activities. NGOs play a particularly important role in mobilising communities where civil society is weak, and where citizens are not familiar with democratic governance processes and are not aware of their rights, or how to exercise them.
- Although civil society in these former communist countries is relatively young, structures were particularly weak in each of the case study communities because each is composed of migrants who have settled in suburban or peri-urban areas. These communities are, therefore, heterogeneous with a mix of cultures and traditions, often giving rise to a degree of distrust within communities. They lack traditional leadership structures, and may have only weak political structures, especially where migrants have not registered with the authorities. Overcoming these obstacles to community mobilisation generally **needs considerable external input**, which was provided by the NGOs in Moldova and Kyrgyzstan.
- **Lack of trust is a major obstacle** to instigating projects – both between communities and government structures (as in Moldova), and within communities themselves (as in Kyrgyzstan). NGOs can play a particularly valuable role in promoting transparency, which is needed to help build trust. They can act as ‘independent’ intermediaries between communities and authorities, or between various social groups within a community. Citizens in former soviet economies tend to have limited understanding of emerging **democratic processes**, and NGOs can help people understand how decision making processes work, and encourage people to engage in democratic processes.
- Whilst structures within communities were weak, it is also true that the NGOs were themselves relatively young, and although they had identified the problems that needed addressing, they recognised their lack of knowledge on how to carry out community mobilisation programmes. Each was successful in attracting funding to **build capacity** internally, using the experience from other NGOs.
- In contrast to the weakness of civil society structures, the governance structures in these countries was relatively strong. There are well defined planning procedures for urban development, and responsibility for provision of infrastructure is ascribed to various institutions. The problems arose when these institutions were overwhelmed by the numbers of people settling, and by lack of financial resources. Communities were successful in achieving their aims because the **legislative system placed obligations** on the service providers - the lobbying activities were then effective in holding these institutions to account. Only in Moldova did the NGO make a financial contribution to the project, but it is noted that this was minimal, and acted as a token gesture to get the project going. Rather, it was the process of community mobilisation that helped communities raise funds from their own resources.

- A feature of the case study countries is the change in energy utility service provision from state service to commercial commodity. The setting up of commercial entities to provide services has been accompanied by the introduction of commercial practices, such as the signing of customer contracts, and the associated legislation. All of this is new to citizens, and there is a need to educate consumers on '**legal literacy**'. NGOs can provide the intellectual capacity to interpret consumers' rights, which is essential to ensure that advocacy efforts are successfully targeted.
- The case studies are all drawn from former communist countries, and are characterised by a massive and sudden migration of people from rural areas into the capital cities when the communist systems collapsed. Problems with inadequate infrastructure to serve low income urban communities arose because procedures could not cope with the rate of resettlement. Similar problems with inadequate infrastructure occur in cities in other parts of the world, albeit for different reasons. It is proposed that the approaches presented in the case studies could also be of value in **other parts of the world** where these problems are evident, although it is essential that the legislative framework be in place.

Other lessons that can be drawn from the case studies include:

- It doesn't matter where the idea comes from, or who initiates the process – it is the process of community consultation that is important.
- People use wood if other energy infrastructure is inadequate;
- Although the successes arise from negotiating, lobbying and advocacy activities, each of the NGOs carried out a much broader range of training activities to build capacity of community members;
- Target activities at multiple levels of government – local and national;
- Important role of 'champion' in local government, or traditional leadership structure;
- Providing power to low income communities can be profitable;
- The electrical design load of dwellings in low income communities is higher than previously thought, and people are prepared to pay for a good quality supply;
- Demonstration affect – most case studies started from a point where communities had some prior experience of successful lobbying.

This series of case studies was compiled as part of collaborative project 'Impact of the withdrawal of modern energy on urban poor' (R8147), between **Gamos Ltd.** (UK), the **EU-Albania Energy Efficiency Centre** (Albania), **Women's NGO Alga** (Kyrgyzstan), and **Agape** (Moldova).

This document is an output from a project funded by the UK Department for International Development (DFID) for the benefit of developing countries. The views expressed are not necessarily those of the DFID.

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