



FINAL REPORT

Rehabilitation and Construction of Water Supply Systems in Tusheti Region:

Phase 2: Implementation

1. Context & Background

ACF was contracted by Fauna and Flora International (FFI) – in collaboration with NACRES – to implement the rehabilitation and construction of water supply systems for villages in the Tusheti region, Georgia. In June 2011, ACF performed an assessment of 8 villages in the region and produced a bill of quantities and a sketch of works for each of the assessed villages as well as the approximate cost for each sub-project. These villages were (in order of priority by the villagers):

- Dano (1)
- Chesho (2)
- Baso (3)
- Beghela (4)
- Parsma (5)
- Dartlo (7)
- Vestomta (8)
- Chala (or Khiso) (11)

Following this assessment process and analysis by FFI/NACRES, it was agreed that ACF would implement construction and rehabilitation projects in all eight villages. To this end a service contract was signed with ACF at the end of July and a three-month timeframe set for the completion of the works.

2. Preparation and procurement

To provide effective oversight of the building works, ACF hired a local engineer, Mr. Nodar Ididze, on the 8th August. It was Mr. Ididze's responsibility to identify a team of skilled workers in Tusheti who would be responsible for performing the concrete and pipeline works. Mr. Ididze was also responsible for mobilizing the local communities to provide additional labour to support the implementation of the project. Eight skilled workers were employed on a service contract and on average five villagers in each community provided manual labour for the construction works.

In early August, ACF also started procuring the materials (pipes, connections, insulation, cement etc.) that would need to be transported to Tusheti. All procurement was carried out in Tbilisi and on the 12th August a

truck and trailer were hired to transport the materials to Tusheti. Additional materials were then transported up to Tusheti by ACF during a monitoring visit from the 17th – 19th August.

3. Implementation by Village

Works have been completed in all villages. The implementation was staggered over several weeks to allow the engineers to provide adequate supervision. The works were completed in Vestomta first and in the village of Dartlo the work started last, as tourists were staying in this village and it was not possible to disconnect the existing water supply. Works in this final village were completed by the 3rd October. ACF made monitoring visits from the 30th August – 2nd September and 13th – 16th September. No final visit could be made by the ACF engineers due to the early onset of winter snow in the first week of October. The local engineer, however, made a final monitoring visit and took photographs of the completed works.

i. Parsma & Baso

These two villages are supplied by the same water source. The water catchment zone was constructed and the 50mm pipeline laid in the ground and covered. At one point, en route to Parsma, the pipeline crosses a deep gorge and the pipe had to be suspended for a 90 metre distance. A cable is to be slung across this gorge and was secured to the ground by iron supports. The pipeline was secured to the cable.

In Parsma, three public water points were connected and there are five points at which the water pipeline splits to supply different areas of the village. In Baso there are four public water points and two pipeline splits.



Photo 1: Public Water Point in Parsma

ii. Chesho



In Chesho the water catchment zone was newly constructed and the pipeline was connected and laid under the ground. Water flow was tested and there was good pressure in the village.

Photo 2: Connected water pipeline in Chesho

A public water point was built in the village and there are five points where the pipeline splits to other parts of the village.

Photo 3: Newly constructed water point using old materials



iii. Dano



In Dano the catchment zone was constructed and the water pipeline connected and laid in earth channels prepared by the villagers. One public water point was renovated and there are four points at which the pipe splits to supply other parts of the village.

Photo 4: Testing water pressure in Dano

iv. Vestomta

The works in Vestomta were completed in early September. Transport to this village was very difficult as there were no roads. All materials were transported by horseback. However it was not possible to transport the protective covers for the newly constructed catchment zone due to their weight. This meant that the ACF and local engineer had to design an alternative and lighter design. Following construction of the catchment zone the water was connected to the village. The water feeds two public water points and there are three points at which the pipe splits.

Photo 5: Public water point in Vestomta





v. Beghela

A new catchment zone was prepared in Beghela and the pipeline laid underground. The water is now connected and one public water point was constructed.

Photo 6: New catchment zone in Beghela

vi. Khiso

There was no need to build a new catchment zone in Khiso, but ACF constructed a new 3,000 litre reservoir to store water. The pipeline was installed and insulated. Part of the pipeline that runs above a river required iron supports to secure it. There are four public water points in the village and four splits in the pipeline to supply other parts of the village.

Photo 7: Water point in Khiso



vii. Dartlo

As mentioned above the work started later in Dartlo as the existing water supply could not be turned off as tourists were staying in the village until the 15th September. This project was a rehabilitation of the existing system. The water catchment zone was renovated and a 3 ton water tank reservoir was installed. Some piping was replaced and connected to the existing system.

4. Issues and problems

There were only a few issues and problems to deal with during the project implementation. Participation from the villagers was good and the work was completed in good time. As mentioned above, in a couple of sub-projects the pipeline had to be suspended across canyons and rivers. This required extra supports and insulation to protect the line against the cold. Transportation was also an issue in villages with poor, or no, access roads, however, ACF overcame this problem by travelling on horseback.

5. Visibility

Eight visibility plaques have been produced on marble stone that will be installed into, or next to, a water point in each village. The logos of each participating agency were engraved into the stone, along with the village name. These plaques are to be given to the local engineer who will ensure that next year (when there is access to the region) they are installed in each of the villages.

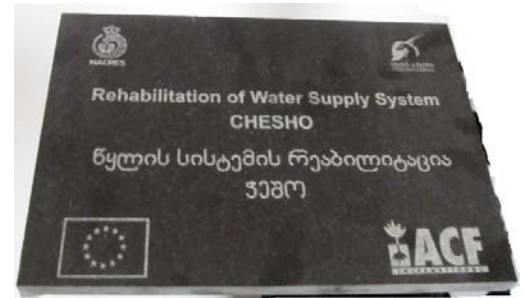


Photo 8: Visibility Plaque

6. Assessment visit to Vashlovani

Following completion of the works in Tusheti, FFI requested ACF to look into the possibility of using the remaining funds to provide livestock watering points in Vashlovani region. This region is used as winter pasture land by shepherds from the Tusheti region. Two assessment visits (paid through the existing budget) were made to the region by the ACF engineer accompanied by staff from NACRES. Initially it was thought to make bore wells, but it was later discovered that the water table was over 150 metres below the surface which made this option untenable. Instead ACF made a design to capture stream water (from seasonal streams) in submerged reservoirs that would be connected to water troughs. The design would have little impact on the flow of the water. However when this idea was presented to the Agency for Protected Areas it was rejected and at this time no further plans are being developed.