



USAID
FROM THE AMERICAN PEOPLE

MUNICIPAL INFRASTRUCTURE AND IDP HOUSING REHABILITATION PROJECT

**COMPONENT 2 IRRIGATION: ENVIRONMENTAL STAKEHOLDER
MEETING REPORT**

**CONTRACT: AID-EDH-I-00-08-00027-00, TASK ORDER: AID-114-TO-
11-00002**

1 December 2011

This document was produced for review by the United States Agency for International Development. It was prepared by Tetra Tech for the Municipal Infrastructure and IDP Housing Rehabilitation Project, Task Order number AID-114-TO-11-00002 under the USAID Architectural and Engineering (A&E IQC).



MUNICIPAL INFRASTRUCTURE AND IDP HOUSING REHABILITATION PROJECT

COMPONENT 2 IRRIGATION: ENVIRONMENTAL
STAKEHOLDER MEETING REPORT

CONTRACT: AID-EDH-I-00-08-00027-00, TASK ORDER:
AID-114-TO-11-00002

1 December 2011

DISCLAIMER

This report is made possible by the support of the American People through the United States Agency for International Development (USAID). The contents are the sole responsibility of Tetra Tech EM, Inc. and do not necessarily reflect the views of USAID or the United States Government.



1 December 2011

Mr. Bradley Carr
Water Irrigation and Infrastructure Advisor
Office of Economic Growth
US Agency for International Development
11 George Balanchine Street
Tbilisi, 0131
Georgia

Re: Component 2 Irrigation: Environmental Stakeholder Meeting Report for the Municipal Infrastructure and IDP Housing Rehabilitation Project

Dear Mr. Carr:

This report is being submitted to you in accordance with the requirements of task order no. AID-114-TO-11-00002 of contract AID-EDH-I-00-08-00027-00. It provides Tetra Tech's Component 2 Irrigation Environmental Stakeholder Meeting Report for the Municipal Infrastructure and IDP Housing Rehabilitation Project.

We look forward to your review and welcome your comments and suggestions.

Very truly yours,

A handwritten signature in black ink that reads 'Jeffrey W. Fredericks'. The signature is written in a cursive style and is enclosed in a thin black rectangular border.

Jeffrey W. Fredericks, P.E., PhD
Chief of Party
Tetra Tech, Inc.
USAID/ Caucasus – Municipal Infrastructure and IDP Housing Rehabilitation Project (GMIP)
10th Floor, 154 Aghmashenebeli Ave.
Tbilisi, 0102, Georgia
Tel: +995322910401, Fax: +995322910401
Email: Jeff.Fredericks@tetrattech.com

CC: USAID (George Kokochashvili); MDF (Kartlos Gviniashvili); Tetra Tech (Firouz Rooyani, Dean White, Tom Chicca, Illia Eloshvili)

Table of Contents

Section	Page
1. Stakeholder Meeting Minutes (Scoping)	1
1.1 Introduction.....	1
1.2 Itinerary.....	1
1.3 Presentations.....	1
1.4 Questions & Answers.....	2
1.5 Discussions.....	4
1.6 Conclusions.....	8
ANNEX A. Announcements	10
ANNEX B. Agenda	12
ANNEX C. Photos	13
ANNEX D. Participants	15
ANNEX E. Presentation	16

1. Stakeholder Meeting Minutes (Scoping)

1.1 Introduction

Municipal Development Fund (MDF) of Georgia and TetraTech, in coordination with the project sponsor USAID-Georgia, organized Environmental Scoping Stakeholder Meeting for Irrigation Rehabilitation component of the Georgia Municipal infrastructure and IDP housing rehabilitation project (GMIP).

The stakeholder meeting was held on November 18, 2011 at 11:00 at Multifunctional IDP Community Center of the Verkhvebi Settlement, Gori Municipality, Georgia. The aim of the meeting was to provide project stakeholders with the information regarding the project, as well as to explain the technical as well as environmental issues important for the Environmental Assessment (EA) of GMIP irrigation rehabilitation component.

1.2 Itinerary

Notices about the meeting were posted in several local settlements located within the Saltvisi-Tiriponi rehabilitation area. Local self-governments' public information boards were used to display the announcements informing the public about meeting purpose and location. In addition to this, Mtkvari-M Ltd and its management office in Gori – the Government owned company in charge of the operation and maintenance of the irrigation scheme – the main beneficiary of the project component, were kindly requested to facilitate the invitation and participation of the project stakeholders, including its own staff concerned, former Water User Associations (WUA) as well as representatives of the local self-government and local public.

Photos of the public notices/announcements are provided in Annex A. Agenda of the meeting is reproduced in Annex B. Some photos documenting the meeting are provided in Annex C. List of participants (in English) / the registration sheet are provided in Annex D. Copy of the presentation is attached as Annex E.

The meeting, including its question and answer session was recorded in audio and webcam format, which is kept in project files. Presentation facilities at the meeting included overhead projector with PowerPoint file (in Georgian language). The meeting was logistically organized by MDF and TetraTech, while proceeding was facilitated by Mr. Mamuka Gvilava, Environmental Specialist of TetraTech, Georgia.

1.3 Presentations

After the presentation of the agenda and personal introduction of all participants the meeting was addressed with introductory statement by Mr. Jeffrey Fredericks, USAID/TetraTech, GMIP Chief of Party. He welcomed MDF, Mtkvari-M and WUA representatives as the participants and beneficiaries of the project, explained the purpose of the environmental meeting and briefly introduced the project organization and its irrigation component in particular.

On behalf of the project implementer the meeting was addressed by Mr. Paata Charakashvili, Head of Division, International Relations, MDF. He thanked and welcomed participants and described basic parameters of the project with over \$54 million allocated by USAID to municipal, IDP and irrigation components of the project. The latter component is very important for the agricultural development. In the nearest future project procurement would be initiated and hopefully by March the contractor would be mobilized to initiate the rehabilitation works.

Technical description of the project was presented by Mr. Otar Magalashvili, Hydrotechnical Engineer, TetraTech, Georgia. He provided brief historical overview of irrigation in Shida Kartli, back as early as in 19th century, with major irrigation systems being established in 1930-s. Explained that Tskhinvali headworks is no more operational due to known events. New headworks (dam with pumping station) were recently put into operation on Didi Liakhvi. Due to limited funds and more sustainable economic figures, the priority was given to partially rehabilitate Saltvisi and Tiriponi schemes. Hydrology and irrigation network was further characterized, basic parameters of the existing and both to be rehabilitated schemes were explained. Characteristic photographs, demonstrating various locations along the network, major facilities and their need of repair was shown. Some areas are not de-facto accessible and these canals will not be rehabilitated. It was also explained that rehabilitation in Tiriponi would proceed in three phases.

Environmental scoping of the irrigation component of the GMIP project was presented by Mr. Mamuka Gvilava, Environmental Specialist of TetraTech, Georgia. Substance of the presentation was concerned with scoping issues such as potential project alternatives, key environmental issues of the project component to be considered in EA, etc. Presentation was closely following the PowerPoint file, which is reproduced in Annex E. After the presentation of the environmental scoping issues the presenter invited participants to raise their questions (Q&A session is reproduced in the next subsection). The presenter then facilitated the discussion session with stakeholders to identify and/or confirm key environmental issues. Results of this discussion are reported in the subsequent sub-section further below.

1.4 Questions & Answers

The participants were invited to raise their questions.

Question. *Mr. Mamuka Lomsadze, Gori Office Manager, Mtkvari-M. You mentioned sediments in your presentation. During Soviet times we used to dispose these sediments along the canals or rivers and then high waters would drift them away. Now it appears that we identify this as the problem. What is the recommendation, how should we identify disposal areas and how should we deal with the spoil?*

Response. Mr. Mamuka Gvilava, Environmental Specialist, TetraTech, Georgia. This is important question. At the scoping stage we do not have yet response to this issue, but it can be considered as the important environmental issue to be dealt with in the EA, which is indeed confirmed also by your question being raised at this meeting. As a preliminary consideration, most likely solution is to identify and allocate disposal areas in strategic locations along the schemes, with all the consequence for the analysis, such as in which particular locations, land tenure/ownership issues in the proposed areas

etc., or alternatively, whenever possible, disposing of along the canal service roads, if this can be implemented in the environmentally safe and responsible manner.

Response. Mr. Paata Charakashvili, Head of Division, International Relations, MDF. Let me add that same is concerned with other construction waste as well, and as we are aware EA and Environmental Mitigation and Monitoring Plan (EMMP) are under preparation to deal with these issues. As our experience with the World Bank projects demonstrates, EMMP becomes part of the contractual obligation for the construction contractor, and with EMMP it would be specified in detail where to deliver the wastes, where to dispose, how to prevent and control pollution such as spills from equipment. Monitoring of the contractor's performance will of course be performed by us, together with TetraTech and all these issues will be strictly controlled and monitored, so that the contractor complies with the contractual obligations, thus avoiding severe penalties potentially imposed on them in case of non-compliance.

Response. Mr. Jeffrey Fredericks, USAID/TetraTech, GMIP Chief of Party. Let me add to important points already expressed that key issue with the spoils is whether they are contaminated or not with such as heavy metals or other hazardous substances, and we should be monitoring this. Obviously for uncontaminated spoil we should identify disposal areas, such as access roads, other areas where Mtkvari-M and communities are comfortable with. Technical specifications will require from contractor to comply with necessary requirements. Bottom line for our discussion here is that this is the important issue and it should be addressed.

Question. *Mr. Mamuka Lomsadze, Gori Office Manager, Mtkvari-M. Another issue I would like to raise is what to do with household waste including plastics which are frequently dumped by population into the channels, which is the practice since Soviet times? Solution of waste disposal problems within the villages might not be achieved in the short-term perspective and why don't we define some intermediate solutions, such as installing some grating barriers in canals to recover the floating debris to protect important facilities, such as siphons for instance.*

Response. Mr. Jeffrey Fredericks, USAID/TetraTech, GMIP Chief of Party. Such facilities are called Trash Screens. These can definitely be installed, and then you have to have equipment to remove the trash, with special nets or other tools. It would also be important to work closely with local authorities to identify disposal areas so that trash is recovered by Mtkvari-M and municipality then allocates landfill spaces to deposit it.

Response. Mr. Mamuka Gvilava, Environmental Specialist, TetraTech, Georgia. Let me reiterate that the purpose of the scoping process is to identify important environmental issues and address them when preparing EA. This issue definitely looks like an important one, and we already have at least one solution mentioned, but of course we would explore other mitigations as well, including long term solutions, addressing source of the problem rather than applying only 'end of pipe' solution. Such longer term solutions can be defined as mitigation measures for operations phase, which should be addressed through the efforts of the operating company in coordination with authorities.

Question. *It is indeed nice that project will help us rehabilitate the system, but long term solution should probably be better funding of the Mtkvari-M, otherwise system will again fall in disrepair in pretty short time, unless enough budget and resources are provided to operating company.*

Response. Mr. Mamuka Gvilava, Environmental Specialist, TetraTech, Georgia. You are actually raising the very important issue of the operation and maintenance (O&M). Let's look at his issue from the environmental perspective. If there is no viable O&M Plan, there would not be the plan for addressing environmental issues as well, therefore adequate O&M is critical for sound environmental management as well.

Response. Mr. Jeffrey Fredericks, USAID/TetraTech, GMIP Chief of Party. As part of the program we recognize this as the important issue at the outset. As a partial solution we would specify the design contractor to lay out proper O&M Plan. Rehabilitation only will not ensure sustainability of the system. First step would be to come up with the O&M Plan as the deliverable, working together with designers and with Mtkvari-M. Another idea we have (not yet confirmed as the commitment) to include as part of the construction contract identification and rehabilitation/repair couple of local offices designated as service centers for Mtkvari-M.

Remark. Mr. Otar Magalashvili, Hydrotechnical Engineer, TetraTech, Georgia. Important issue considered in the feasibility report is the analysis of economic feasibility. Mtkvari-M should achieve profitability margin so that it can staff itself out and generate enough revenues to sustain its operations. Initial analysis shows that it can be profitable organization except for the coverage of the electricity bill for the operation of pumps. In this latter case the Government should probably provide funds to cover this part of the operational costs. Economic sustainability is therefore the important issue.

This concluded the Q&A session.

1.5 Discussions

Facilitator of the meeting invited participants to elaborate their opinion with regard to the pre-selected issues displayed on screen using PowerPoint projector.

Discussion issues. *How will equitable access to irrigated lands be addressed? Equitably shared benefits from production? Will there be adequate access to markets? Will farmers have enough demand for their production?*

Feedback of stakeholders. Mr. Mamuka Lomsadze, Gori Office Manager, Mtkvari-M. Unfortunately current irrigation system cannot be described as equitable. The flow irrigation is inherently unfair as those who manage to get access to water get the benefit and others downstream are left without access. Productivity also much lower with this system compared to drip irrigation or other modern methods.

V. Garejvari representative. This year things were definitely better than in the previous period. Still, there are many problems with community irrigation networks, where some parts of the community have better access to irrigation water than others.

Mr. Alexander Shakarashvili, Deputy Director of Mtkvari-M. Regarding the local networks, as you know Water User Associations formally do not exist anymore. WUA-s were not capable to perfectly manage the local level networks, but now situation is even worse, as the system is in nobody's hand at the local level. If these systems are handed over to Mtkvari-M (although there would be the need of significant funding as the network at the local level is in serious disrepair), we would expect to improve the

management significantly. Even if it is not Mtkvari-M, there should be somebody in charge of the local systems.

Discussion issues. *What impact will the rehabilitation have on wetlands and downstream ecosystems?*

Feedback of stakeholders. Valuable wetland ecosystems are not known in the area, as mostly territories are used for agriculture. There are many waterlogged areas, but with improved irrigation these can be dealt with.

Question. *Mr. Jeffrey Fredericks, USAID/TetraTech, GMIP Chief of Party. In relation to the discussion theme, what about drainage issues, are there areas with poor drainage in the command area?*

Feedback of stakeholders. In Karaleti ground water table is high and there is believed to be high rate of groundwater flow horizons, located to about 1 m depth, and this is permanent feature rather than sporadic/transient. This covers entire Karaleti area, near the Kveshi HPP. Finally this groundwater flow discharges into the stream gorge.

Discussion issues. *What are current land tenure arrangements?*

Feedback of stakeholders. As a result of the privatization of lands in 1990-s almost all local households now have access on average to 1-2 hectare land, but these lands (70-80%) still mostly are not registered in the public cadastral system due to lack of the registration funds due to social conditions (some 50 GEL is required for the registration formalities and typically some 200 GEL for land plot demarcation by cadastral private companies). Almost every household has the land in ownership, although large portion of population have not yet registered formally with the National Agency of Public Registry. There are few large land owners as well, up to 100 hectares, owned both by physical or legal entities (i.e. individuals or companies/organizations). There is a process going on towards the merger of some smaller individual plots, as larger areas up to 10 hectares are more efficient to operate profitably.

Discussion issues. *Are there differences in men's and women's roles and relationships that may affect the long-term future of the scheme and the environment?*

Feedback of stakeholders. Women have not much to do in the irrigation (this response resulted into noise and lively jokes among participants). Mtkvari-M people mentioned that women are involved in water measuring. TetraTech suggested that women could be very good and efficient in office work. Mr. Jeffrey Fredericks even suggested that women could be an excellent resource in QA/QC type tasks of oversight over construction works. Some people confirmed that women are sometimes using local level canals for washing. People did not confirm the use of irrigation water for drinking purposes. Primary use by households is for irrigation (at village plots, for instance) rather than anything else. It is also not believed that irrigation water is the source of illness from pathogens; women did not report that children are suffering from parasite vectors via irrigation canals.

Discussion issues. *What is happening to the quality of the soil in the area? What are existing and future soil maintenance needs (e.g., will soil fertility decrease due to*

intensive cropping and nutrient leaching)? What changes have farmers observed in the last 30 years?

Feedback of stakeholders. If proper chemicals and fertilizers are applied there seems no problem. Special measures are not applied (like gypsum etc.). No extension services are generally reported, but it was mentioned that OSCE provide certain equipment for soil testing (in v. Mejvriskhevi). Participants are not aware of the progress, but nobody heard any more details. Special associations were formed in couple of villages and they acquired these tools. Probably these services were attached to Ministry of Agriculture, and it was suggested by TetraTech to investigate the issue whether it would be useful to attach these services to Mtkvari-M. Mr. Jeffrey Fredericks noted that in other irrigation areas he is aware that WUA-s were given this capability (equipment and training). Feedback was somewhat skeptical on how successful these efforts were, though it was reported that not much is known by locals in Saltvisi and Tiriponi area.

Question. *Mr. Jeffrey Fredericks, USAID/TetraTech, GMIP Chief of Party. In relation to the discussion theme, was there any incidence of severe damage to crops and vegetation due to very limited access to irrigation waters in last 3-4 years, in orchards in particular?*

Feedback of stakeholders. Nikozi area was immediately mentioned. In Saltvisi also, where there was a lack of water the vegetation actually was vanished. Khurvaleti area (Akhalsopeli and Shavshvebi villages in particular) also is suffering due to non-operation of the pumping and water storage scheme coupled with the Nadarbazevi Lake. In Shavshvebi, in particular, damage to hazelnut trees were mentioned as these require larger quantities of water. If water would reliably come back locals report that villagers would immediately start recovering the vegetation, though it may take several years depending on the species, before harvesting of produce can be re-established. Last year as soon as people seen the water they started to deal with seedlings. Still, people are advised by Mtkvari-M to be cautious and not to invest in certain types of agricultural activities, if water cannot be guaranteed 100% in the specific area.

Discussion issues. *What is the potential for soil salinization or other long-term, cumulative effects?*

Feedback of stakeholders. Mtkvari-M reports that sometimes more water does not mean more productivity. In some areas soils are more base-type rather than acid, and lot of water washes out base chemistry and leads to rising levels of acidity. Sometimes local people complain to Mtkvari-M management that they have done all measures with enough water and chemicals/fertilizers applied, but still could not produce the profitable amount of crops. So it seems important to establish irrigation and agricultural practices which are optimal for particular kinds of soils. Today nobody implements special treatments like with gypsum etc., though people are rotating crops. Spatial distribution of various conditions of soils is not well known and it would be better to have soil quality assessments to prescribe right agricultural practices fit for the location. TetraTech management mentioned that satellite images could be used as the good tool to assess the acidity and other parameters of lands/soils.

Discussion issues. *Are there any current pest problems?*

Feedback of stakeholders. Mice, hamsters, snakes are the problem in winter time. Mtkvari-M is switching on irrigation in winter to allow population to control the mice with cold water drowning. Another type of problem mentioned is the low quality of agrichemicals and fertilizers.

Discussion issues. *What is the condition of the potable water supply? Are there potential health issues?*

Discussion issues. *What is the current incidence of water-borne diseases?*

Both of these themes were briefly addressed above.

Discussion issues. *Any important cultural or archaeological heritage issues along the irrigation network or in the area?*

Feedback of stakeholders. No feedback could be provided; it was more advised to ask specialists. TetraTech representatives mentioned beautiful churches in Zemo Nikozi, close to irrigation main canal.

Discussion issues. *What about fish resources, in canals, in rivers, what kind of fish?*

Feedback of stakeholders. Zonkari reservoir upstream Patara Liakhvi (in conflict area) used to be good resource for the fish. Fishing or fish was not quoted in canals now. When the canals were operating with gravitation scheme the fish was migrating into the main irrigation canals from River Didi Liakhvi. With dam and pumping station now this is not physically possible. In rivers not much local fish interest as well, still it was quoted that following species are present: gudgeon, barbel-mursa, trout less frequently (more abundant in mountainous areas).

Discussion issues. *Any migrating and/o game bird species in the area, birds of prey?*

Feedback of stakeholders. Quails are abundant and also ducks, cranes were quoted near rivers. Game hunting is popular activity by locals.

Discussion issues. *Any wildlife/mammals in the area?*

Feedback of stakeholders. In river riparian areas one could meet mammal wildlife species such as fox, jackal and alike, no bears, no roe dears, which are expected more in mountain areas.

Discussion issues. *What are the long-term prospects for maintaining canal and irrigation structures? Who will maintain them? How? Who will pay for maintenance?*

Discussion issues. *What realistically may happen when the project ends? What will the project area look like in 30 years?*

Both of these themes were briefly addressed above.

Discussion issues. *Mr. Jeffrey Fredericks, USAID/TetraTech, GMIP Chief of Party raised three issues/questions: (i) if there is a need or problem in accessing grazing areas in occupied zones over the canals? (ii) some of these canals and facilities could*

be quite dangerous due to high velocities of water flow; are there any reports of drowning of people? (iii) new groundwater irrigation facilities were observed in some places (outside Saltvisi-Tiriponi scheme), is this the trend which is likely to spread into project supported area as well?

Feedback of stakeholders.

(i) In Mejvriskevi this cross-canal grazing access is practiced. It would be desirable to discuss with local authorities / community leaders which are the most suitable locations. 3-4 crossings would be sufficient in areas between Didi and Patara Liakhvi section of main canal.

Mtkvari-M Gori representative mentioned also that the water drinking areas for cattle would be nice to organize, because in some places local people even destroyed concrete structures to allow their cows access the canal water for drinking by cattle.

Both of these suggestions were strongly encouraged and welcomed by TetraTech management for implementation. This will be included as the task for the design/construction contractor to agree together with Mtkvari-M and local community leaders.

(ii) Participants confirmed that there are frequent incidents of this nature. Just couple of weeks ago 3 children were drowned at Karbi headwork's. Locals considered that with irrigation canals there is less danger, but much more threat is at hydrotechnical facilities. Mr. Jeffrey Fredericks also recalled that during site visit at Didi Liakhvi dam site at Tiriponi young people were jumping into water in quite dangerous situation.

TetraTech management again suggested to consider this as the serious safety issue and equip at least all rehabilitated sites with safety controls, such as handrail barriers, safety screens at proper facilities etc. as well as with targeted signage to alert local people on dangers, as well as to provide some Mtkvari-M personnel guard facilities in strategic locations like Karbi.

(iii) Similar type of irrigation scheme was confirmed in Patara Garejvari area (there is a small lake which is collecting waters from irrigation channels), but generally groundwater irrigation cannot be considered as viable in Saltvisi-Tiriponi area, because with higher elevations groundwater goes to over 100 m depths.

This concluded the discussion session and the meeting. Organizers thanked local stakeholders for active participation in this very informative meeting. Participants were then kindly invited to have the modest lunch.

1.6 Conclusions

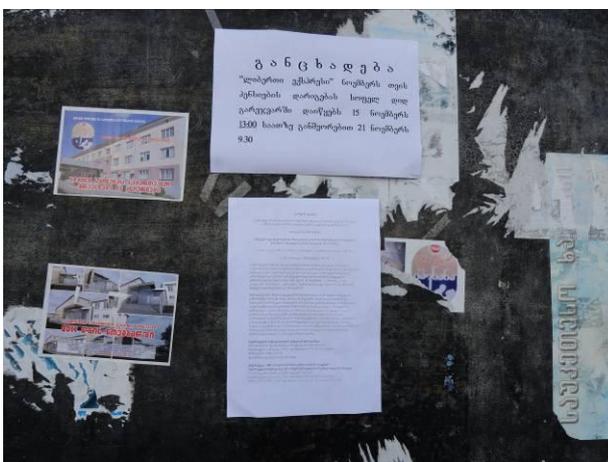
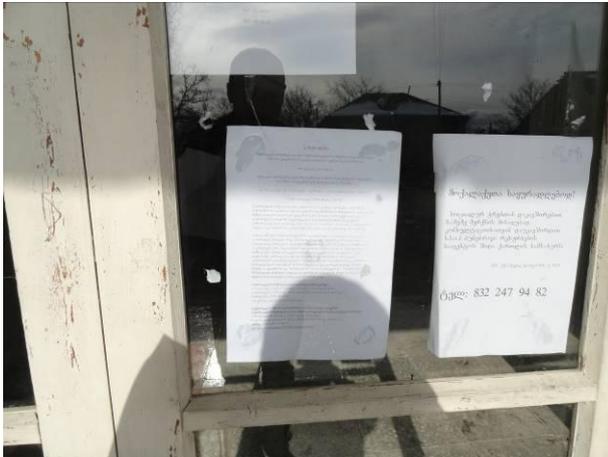
Meeting lasted from 11:00 to 13:00. It was well attended and organized as planned, and was very substantive. Participants were represented by various stakeholders, including representatives of operator company, local communities as well as local government authorities. Atmosphere at the meeting was quite relaxed; all those wishing to express their opinion were readily given such an opportunity. Female were at least 30% of participants. Meeting was facilitated by TetraTech environmental specialist, with moderating back-up by GMIP Cop. Project management was well represented by

TetraTech team and key MDF representatives in charge of GMIP. Meeting premises, including projecting facilities were very convenient.



ANNEX A. Announcements

Photos of the announcements placed in several local settlements and copy of the text:



ANNOUNCEMENT

USAID funded GMIP Project, Irrigation Component

Stakeholder Meeting (Environmental Scoping)

V. Verkhvebi, Gori Municipality

11:00, Friday, 18 November 2011

Municipal Development Fund of Georgia is pleased to announce that the stakeholder meeting to discuss the environmental scoping of the irrigation component of the USAID funded Municipal Infrastructure Rehabilitation Project (GMIP) will be held on Friday, 18 November 2011 at 11.00, at the following address: Multifunctional IDP Community Center, V. Verkhvebi, Gori Municipality.

GMIP Irrigation Component comprises the partial rehabilitation of the main channel, distributaries and hydrotechnical facilities of the Tiriponi and Saltvisi irrigation schemes in Shida Kartli. The meeting will discuss the technical aspects of the irrigation component, as well as will consult with stakeholders on issues important for environmental scoping of this project component. Those interested to participate should contact meeting organizers at the address and contacts indicated below.

Municipal Development Fund of Georgia

Kartlos Gviniashvili, Project Officer

150 Agmashenebeli Ave., 0112, Tbilisi, Georgia

Mobile: +995 (599) 42 57 90

E-mail: kgviniashvili@mdf.org.ge

Tetra Tech/USAID - Municipal Infrastructure and IDP Housing Rehabilitation Project

Mamuka Shaorshadze

Environmental Engineer

154, Agmashenebeli Ave., 0112, Tbilisi, Georgia

Mob: +995 (595) 11 60 71

E-mail: mamuka.shaorshadze@tetrattech.ge

ANNEX B. Agenda

Agenda of the Stakeholder Meeting:

A G E N D A

USAID funded GMIP Project, Irrigation Component

Stakeholder Meeting (Environmental Scoping)

V. Verkhvebi, Gori Municipality

11:00, Friday, 18 November 2011

1. Welcome and meeting objectives, introduction of all participants
(MDF, USAID/TetraTech)
2. Introduction into technical aspects of GMIP irrigation component
(Otar Magalashvili, Hydrotechnical Engineer, TetraTech, Georgia)
3. Environmental scoping of the GMIP irrigation component
(Mamuka Gvilava, Environmental Specialist, TetraTech, Georgia)
4. Discussion on potential key environmental issues of the irrigation component
5. Conclusions and meeting closure
(MDF, USAID/TetraTech)

ANNEX C. Photos





ANNEX D. Participants

List of Participants for Stakeholder Meeting 18.10.2011

	Name/Organization	Title	Signatures
	USAID		
1	Bradley Carr	Water, Irrigation and Infrastructure Advisor	
2	George Kokochashvili	Engineering Specialist	
	MDF		
3	Paata Charakashvili	Head ad of Division for Relations with International Organizations	<i>[Signature]</i>
4	Zura Baratashvili	Procurement Officer <i>ცხვო მუშაობდა</i>	<i>[Signature]</i>
5	Kartlos Gviniashvili	Program Manager	<i>[Signature]</i>
	Mtkvari M		
6	Tamaz Babutidze	Head of Pumping Station Meghvrekisi	<i>[Signature]</i>
7	Mamuka Lomsadze	Gori Office Manager	<i>[Signature]</i>
8	Guram Baramashvili	Chief of Channel Exploitation	<i>[Signature]</i>
9	Tamaz Khvedelidze	Chief Engineer	<i>[Signature]</i>
10	Dimitri Kavtuashvili	Head of Mtkmvari M	<i>[Signature]</i>
	Tetra tech		
11	Jeff Fredericks	COP	<i>[Signature]</i>
12	Mamuka Gvilava	Environmental Consultant	<i>[Signature]</i>
13	Otar Maghalashvili	Irrigation engineer	<i>[Signature]</i>
14	Archil Lezhava	Program Specialist/Public Outreach	<i>[Signature]</i>
15	Mamuka Shaorshadze	Environmental Specialist	<i>[Signature]</i>
16	Mark Jensen	Irrigation Consultant	
17	Maia Dvali	Translator	
	Attendees		
18	Tetunashvili Teimuraz	Tirdznisi Gamgebeli	<i>[Signature]</i>
19	Samadashvili Tariel	Association Head	
20	Gholijashvili Tato	Association Head	<i>[Signature]</i>
21	Gigauri Spiridon	Association Head	<i>[Signature]</i>
22	Basilashvili Nino	Specialist	<i>[Signature]</i>
23	Baramashvili Guram	Channel Exploitation Head	<i>[Signature]</i>
24	Gholijashvili Nodar	Specialist at Karaleti Sakrebulo	<i>[Signature]</i>
25	Mazmiashvili Manana	Specialist	<i>[Signature]</i>
26	Basilashvili Evgeni		<i>[Signature]</i>
27	Gogshelidze Tea		<i>[Signature]</i>
28	Kebadze Sopo		<i>[Signature]</i>
29	Gogshelidze Mamuka		<i>[Signature]</i>
30	Tsiklauri Giorgi		<i>[Signature]</i>
31	Buchukhuti Manana		<i>[Signature]</i>
32	<i>ვალერი ჯიქია</i>	<i>სპეციალ-2-ბოლოქობის მენეჯერი</i>	<i>[Signature]</i>
	Total	30 Persons	

ANNEX E. Presentation



Municipal Infrastructure and IDP Housing Rehabilitation Project (GMIP)

Irrigation Component



Stakeholder Meeting (Environmental Scoping)

November 15, 2011



Objectives of the meeting:

- Introduction into GIMP
- **Technical aspects of Irrigation Component**
- **Environmental Scoping of GMIP Irrigation Component**
- Discussion on potential key environmental issues to be addressed in the EA



Municipal Infrastructure and IDP Housing Rehabilitation Project



Municipal Infrastructure and IDP Housing Rehabilitation Project

Implementation: Municipal Development Fund

Engineering oversight: Tetra Tech



Donor: USAID



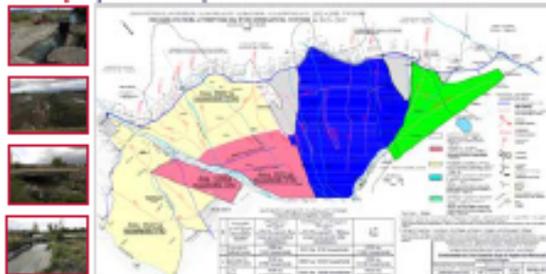
Location: Shida Kartli Region of Georgia



Map: Saltvisi and Tiriponi irrigation systems



Map: planned phases of rehabilitation



Main features of Irrigation Component:

No	Irrigation system	Areas served before rehabilitation	Areas to be served after rehabilitation	Total
1	Saltsvi	1200 hectares 1340 households	8522 hectares 9740 households	9722 ha 11080 hh
2	Tiriponi	3520 hectares 3780 households	4980 hectares 10340 households	8500 ha 14120 hh
	Total	4720 hectares 5140 households	13502 hectares 20080 households	18222 ha 25200 hh

Main activities of Irrigation Component:

- Rehabilitation of 30 km main canal and of 80 km of distributaries (NO new canals!):
 - Repair of damaged lining & disposal of concrete
 - Removal and safe disposal of sediments
 - Removal and reuse/disposal of canal vegetation
 - Installing new gates, flow meters
 - Repair of service roads

Main activities of Irrigation Component:

- Rehabilitation of **Karbi** headworks
- Rehabilitation of other damaged critical irrigation facilities (**gates, siphons, aqueducts, dukers**, etc.)
- **Partial** rehabilitation of **Saltvisi** and **Tiriponi** systems (canals and facilities on occupied territories can not be repaired)

Irrigation Component: **Environmental Scoping**



SCREENING

National **environmental** requirements:

- EA **not required** (Law on Env. Impact)

International **environmental** requirements:

- EA **required** (US Federal Regulation 216)

ALTERNATIVES

Alternative 1: **no action**

- unacceptable consequences

Alternative 2: **proposed action**

- feasible

Alternative 3: **proposed + WUA/privatization**

- institutional and regulatory risks

ALTERNATIVES

Alternative 4: **groundwater irrigation**

- more expensive to install and operate

Alternative 5: **closed pipe irrigation**

- probably too expensive

Potentially significant IMPACTS
(both for construction & for operation):

Threatened and protected species, habitats

- rapid biological appraisal

Hydraulic and hydrological systems, wetlands

- determine impacts on riparian habitats

Cultural heritage and archaeology

- rapid appraisal

Potentially significant IMPACTS
(both for construction & for operation):

Intensified agriculture / expansion to new lands

- identify potentially affected ecological areas

Degradation of water quality, sediment loads

- determine points of potential contamination

Irrigation waterborne pathogen/disease vectors

- identify potential pathogens & transmission

Potentially significant IMPACTS
(both for construction & for operation):

Cumulative impacts (irrigation & river systems)

- predict nature of cumulative impacts

Possible conflicts on land & water use

- identify and foresee potential conflicts

Aquatic species, fish migration (canals, rivers)

- rapid appraisal of aquatic resources

Potentially significant IMPACTS
(both for construction & for operation):

Impacts from water temperature changes

- identify sensitivities with fish fauna, birds

Alterations to hydrology and watersheds

- consider watershed processes, including possible impacts caused by climate change

MILESTONES:

- **Environmental Assessment: January, 2012**
- **Technical design & tender: January, 2012**
- **Start of rehabilitation: Spring, 2012**
- **Completion of rehabilitation: 2 years**
(no active construction in irrigation seasons)

CONTACTS:



Municipal Development Fund

Kartlos Gvinlashvili, Project Officer
150 Agmashenebeli Ave., 0112, Tbilisi, Georgia
Mobile: +995 (595) 42 57 90
E-mail: kgvinlashvili@mdf.org.ge



Tetra Tech:

Mamuka Shaorshadze, Environmental Engineer
154, Agmashenebeli Ave., 0112, Tbilisi, Georgia
Mobile: +995 (595) 11 60 71
E-mail: mamuka.shaorshadze@tetratech.ge

QUESTIONS ?



Potential environmental & social ISSUES

- How will equitable access to irrigated lands be addressed?
- Equitably shared benefits from production?
- Will there be adequate access to markets?
- Will farmers have enough demand for their production?

Potential environmental & social ISSUES

- What impact will the rehabilitation have on wetlands and downstream ecosystems?

Potential environmental & social ISSUES

- What are current land tenure arrangements?

Potential environmental & social ISSUES

- Are there differences in men's and women's roles and relationships that may affect the long-term future of the scheme and the environment?

Potential environmental & social ISSUES

- What is happening to the quality of the soil in the area? What are existing and future soil maintenance needs (e.g., will soil fertility decrease due to intensive cropping and nutrient leaching)? What changes have farmers observed in the last 30 years?

Potential environmental & social ISSUES

- What is the potential for soil salinization or other long-term, cumulative effects?
- Are there any current pest problems?

Potential environmental & social ISSUES

- What is the condition of the potable water supply? Are there potential health issues?

Potential environmental & social ISSUES

- What is the current incidence of water-borne diseases?

Potential environmental & social ISSUES

- What are the long-term prospects for maintaining canal and irrigation structures? Who will maintain them? How? Who will pay for maintenance?

Potential environmental & social ISSUES

- What realistically may happen when the project ends? What will the project area look like in 30 years?

Thank you for participation !

