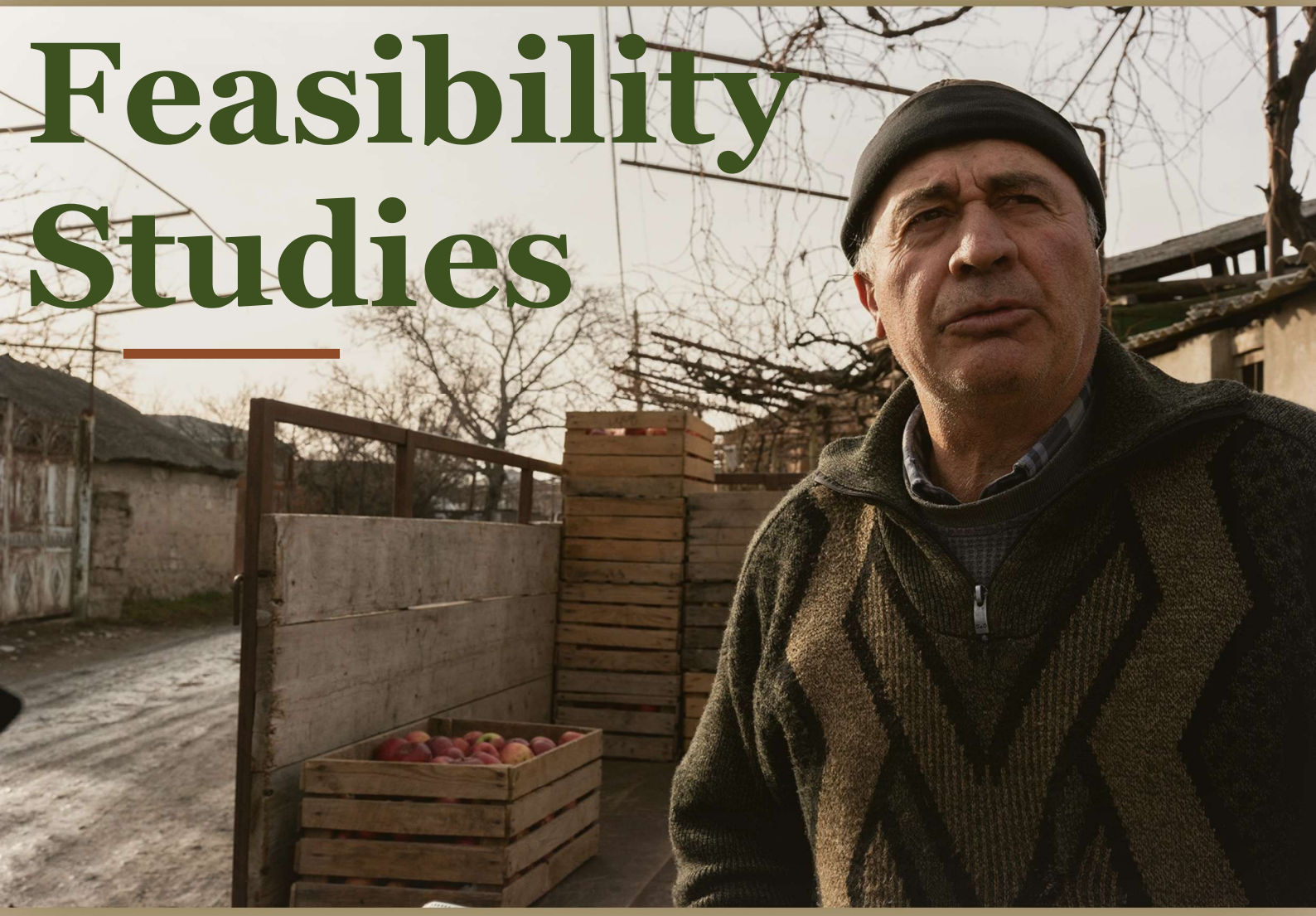
Visegrad Fund

STRATEGIC ANALYSIS

Feasibility Studies



Empowering communities
in the conflict-affected areas of Georgia
adjacent to break-away regions of
Tskhinvali

Tomáš Baranec et al.

2023

Feasibility Studies:

Empowering Communities in the conflict-affected areas of Georgia adjacent to break-away regions of Tskhinvali

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About the project:

Sharing V4 experience with Georgian self-governments: regional development and green innovations

The project focused on local administrations in conflict-affected areas of Georgia adjacent to the break-away regions of Tskhinvali and Abkhazia with the aim to improve the living conditions in these communities. The project aims to build on V4 experience with regional development, social entrepreneurship, social agriculture and applied green innovations in the context of local administration. Building on the expertise, the project aims to create feasibility study reports for the international donor and investor community to address the challenges in a ready-to-implement way, based on terrain knowledge.

These municipalities, through which pass the "administrative borderline" (ABL) face a number of challenges, among many of those of economic nature. To improve the living conditions in these communities, the project aims to build on V4 experience with regional development, social entrepreneurship, social agriculture, local visibility and applied green innovations in the context of local administration. The project builds on MESA10 and Kartlosi`s project supported by SlovakAid, during which the needs and challenges of these communities are mapped, and recommendations are formulated.

The project is ongoing, among these recommendations preliminary known, the socioeconomic and environmental aspect of these communities are representing the biggest issue. Building on the expertise, the project aims to create feasibility studies for the international donor and investor community to address the challenges in a ready-to-act way. The implementing consortium of the project is designed in a way that combines expertise and practice within the fields of regional development, social agriculture, and green innovations in the context of local administration and self-government, thus utilizing the knowledge accumulated in the V4 countries throughout the years. The aim of the project is to share this knowledge with Georgian ABL communities.

Challenges hindering the development of communities on the ABL often differ from those in other parts of target regions. Yet, there is a long-standing lack of analysis and studies focused specifically on these communities, which hinders both effective decision-making of local and central governments as well as effective design and implementation of projects in these regions. The above-mentioned SlovakAid fills the gap in this sense. The project wants to utilize the experience and expertise of the V4 partners with the topics that were identified that could help the socio-economic development of these communities while not only building on theoretical knowledge but based on on-the-ground experience.

ABL communities receive little support not only domestically from their central government, but also from the international community. The ABL communities are not often targeted by the donor organisations and their needs are not mapped yet systematically. The aim of the project is to create tangible, tailor-made recommendations based on field research.

About International Visegrad Fund

The International Visegrad Fund is a donor organization established in 2000 by the governments of the Visegrad Group countries – Czechia, Hungary, Poland and Slovakia. The Fund follows the vision of President Vaclav Havel, President Lech Wałęsa and Prime Minister József Antall and supports regional cooperation of civil society organizations. That is possible thanks to Grants, Scholarships and Artists Residencies. We seek original approaches that help the region progress in seven main areas of Culture, Education, Innovation, Democratic Values, Public Policy, Environment and Tourism, and Social Development.

About Strategic Analysis

Strategic Analysis is an independent think-tank from Slovakia providing expertise for the private sector, public institutions, media, and civil society. It focuses primarily on the European Neighborhood. The Strategic Analysis team combines over ten years of experience working and networking across the European Neighborhood. Its expertise includes a thorough knowledge of two regions – the Western Balkans and the Eastern Partnership countries in terms of geopolitics, internal politics, international relations, security, the economy, the business environment, civil society, and culture. Strategic Analysis offers expertise and capacities in four different courses: via trainings, support of actions. networking and research

About the Main Author

Tomáš Baranec served as a Research Fellow; he helped to implement the MESA10`s project "Community development along administrative boundary line separating the Tskhinvali region from the rest of Georgia, with an emphasis on local self-government and development", supported by the SlovakAid. He also serves as Head of the Caucasus Programme of the Strategic Analysis. Tomáš is a graduate of the Faculty of Social Sciences at Charles University in Prague. He also spent one year as an exchange student at Ivan Javakhishvili State University in Tbilisi, where he studied the transformation of the Caucasus region after the collapse of the Soviet Union. After graduating from university, Tomáš spent another year volunteering in Georgia, where he monitored and researched the Georgian-Ossetian ABL. In the past, he worked as an Analyst at the Institute of Security and Defense Studies in Bratislava, in the private sector and in the Press Agency of the Slovak Republic. As part of his research, he focuses on the Caucasus region, emphasising the separatist regions of Abkhazia and South Ossetia, the North Caucasus, and the South Russian Cossacks

Partners of the project

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Asociace sociálního zemědělství

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by Tomáš Baranec

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Introduction

One of the key priorities of the Opinion on Georgia`s application by the European Commission, the so-called 12 Priorities, is to ensure the involvement of civil society in decision-making processes at all levels. The creation of a participatory budget at local municipality levels is one way to ensure the participation of non-state actors in public life.

Participatory budget as a concept and a tool

Definition:

Participatory budgeting can be defined in various ways. In the UK, where participatory budgeting became a formal strand of government policy in 2007, the government defines it as follows: "participatory budgeting is a form of citizen participation in which citizens are involved in the process of deciding how public money is spent. Local people are often given a role in the scrutiny and monitoring of the process following the allocation of budgets"[1].

According to Participedia, participatory budgeting, in general, "is a method of democratic decision-making whereby participants engage in deliberation regarding how public resources ought to be allocated and distributed"[2].

The Participatory Budgeting Project, the US-based NGO, also defines participatory budgeting as „a democratic process in which community members decide how to spend part of a public budget. It gives people real power over real money"[3].

As it is evident from the abovementioned definitions, they all operate with similar concepts, describing the same process. They view the concept of participatory budgeting as a "Citizen participation/Democratic decision-making/Democratic process to influence how public money/Public resources are spent in their community". The aim is to increase local accountability for more efficient and effective management of public bodies and public resources.

Actors:

[1] https://www.local.gov.uk/topics/devolution/devolution-online-hub/public-service-reform-tools/engaging-citizens-devolution-5

[2] https://participedia.net/method/146

[3] https://www.participatorybudgeting.org/what-is-pb/

Participatory budgeting programs are implemented at the behest of governments, citizens, nongovernmental organizations (NGOs), and civil society organizations (CSOs) to allow citizens to play a direct role in deciding how and where resources should be spent.[4] The role of the aforementioned actors can differ greatly, depending on different municipalities and countries. Nevertheless, all these actors are integral to the effective and transparent implementation of participatory budgets.

Impact:

Implementation of participatory budgeting can positively influence local society on several levels:

A. **Avoiding missed opportunities:** participatory budgeting creates opportunities for engaging, educating, and empowering citizens, who can foster a more vibrant civil society. With the increased variety of participation in fiscal planning on the municipal level, more opportunities are identified from "on the ground", thus enabling addressing in a more targeted or tailored way.

B. **Increased accountability:** participatory budgeting helps promote transparency, accountability, efficiency and effectiveness, thus bearing the potential to reduce government inefficiencies and corruption by enabling citizens to control the services the local government provides.

C. **Inclusion:** since participatory budgeting traditionally also includes low-income citizens, it offers citizens from historically excluded groups the opportunity to make choices that will affect how their government acts.

Brief history of participatory budgeting

Modern participatory budgeting was born in 1989 in the Brazilian city of Porto Alegre, the capital of Brazil's southernmost state, Rio Grande do Sul. It was part of attempts by the Brazilian Workers' Party to create a participatory democracy replacing the outgoing dictatorship. Its campaign was based on democratic participation and the "inversion of spending priorities"—that is, the reversal of a decades-long trend in which public resources were spent in the middle- and upper-class neighbourhoods. Participatory budgeting was intended to help poorer citizens and neighbourhoods receive larger shares of public spending.

During its first two years in office, the new administration experimented with different mechanisms to tackle financial constraints, provide citizens with a direct role in the government's activities, and invert the social spending priorities of previous administrations. Participatory budgeting was born through this experimental process.

At the start of each annual budget cycle, public assemblies were convened across Porto Alegre to enable residents to discuss how they would like to see the authority's unfixed expenditure to be spent. Then, these assemblies selected representatives for each neighbourhood to review the priorities from each district, and then in turn to elect a Municipal Council of the Budget to reconcile all the various demands from across the metropolis. This Council produced the final version of the budget, which the city's government would deliver over the following year. The

[4] https://participedia.net/method/146

Porto Alegre Model provides a roadmap of what"peak" participatory budgeting looks like, with financial decision-making for a major urban area devolved on a grand scale[5].

In 1989 and 1990, the first two years of participatory budgeting, fewer than 1,000 citizens participated in the participatory budgeting process; by 1992 the number of participants had jumped to nearly 8,000. After the Workers' Party was re-elected in 1992, the program took on a life of its own, with participation increasing to more than 20,000 people a year. Participation grew as citizens realized that participatory budgeting was an important decision-making venue[6].

In the following years, the concept of participatory budgeting has spread to other cities and municipalities of Brazil. According to the Washington Post, municipal governments that adopted Participatory Budgeting spent more on education and sanitation and saw a decrease in infant mortality well. It is estimated that infant mortality dropped by almost 20 per cent for municipalities that have used participatory budgets for more than eight years — again, after accounting for other political and economic factors that might also influence infant mortality. The evidence strongly suggests that the investment in these programs is paying substantial dividends[7]. Following Brazil`s success story, from the late 1990s, participatory budgeting has begun to take root in different formats in Central and Eastern Europe, Asia, Sub-Saharan Africa, the Middle East and North Africa.

Participatory budget in Georgia

Although participatory budgeting is an experimental method that started to be implemented in Georgia with a relative delay compared to many EU member states, it has taken off in recent years all around the country.

The use of one of the models of citizen engagement at the local self-government level began in 2015 in the Marneuli Municipality in the form of a civic (participatory) budget project. The Polish fund "Another Space" provided technical and methodological support for this project. The project was implemented in partnership with the local organisation "One Caucasus" and the Marneuli Municipality. As part of this project, 1.5 million GEL were allocated from the municipality budget for the purpose of a participatory budget[8].

In 2019, there was an attempt by civil society to introduce a certification system for participatory budgeting processes conducted in the Georgian local government that was developed based on standards. The main goal of the certification process was to provide recommendations to local government bodies on how to improve the participatory budgeting process[9]. The process was supported by the Solidarity Fund from Poland.

[5]https://www.local.gov.uk/sites/default/files/documents/Knowledge_Participatory%20budgeting%20and%20the%20Porto%20Alegre%20Model_2.pdf

[6] Wampler, Brian. 2007. 'A Guide to Participatory Budgeting'. in Shah, Anwar (ed.). Participatory Budgeting. Washington: The International Bank for Reconstruction and Development/The World Bank

[7] https://www.washingtonpost.com/news/monkey-cage/wp/2014/01/22/brazil-let-its-citizens-make-decisions-about-city-budgets-heres-what-happened/?noredirect=on

[8] https://tinyurl.com/uhmrdpwt

[9] https://tinyurl.com/5n6masz2

Since 2016, the model of citizen engagement has also been implemented in Gori, and here the Ministry of Foreign Affairs of the Republic of Poland provided technical and methodological assistance. This program was implemented in Gori Municipality until merging the city of Gori and the Gori community in 2017. However, since 2018, the civic budgeting project has been revived in Gori Municipality, and since 2019, budget planning has been carried out using the model introduced in previous years.

In 2016-2017, as part of the "Supporting Democracy" program, the implementation of the same model of participatory budgeting was also planned in the municipalities of Haragauli and Tetritskaro self-governing communities, but for numerous reasons, the planned work was not carried out.

At the same time, in March 2016, Rustavi Municipality City Hall started implementing the EU-funded project - "Participatory Budgeting in the City of Rustavi". The project "Participatory budgeting in the city of Rustavi" was implemented in partnership with the Association of Municipalities of the Netherlands and the International Advice Center for Municipalities.

Since 2018, the implementation of a different model of participatory budgeting on the city level began in three municipalities. As part of the "Open Government" initiative supported by the USAID project "Governance for Georgia's Inclusive Development (GGI)" in Kutaisi, Batumi, and Akhaltsikhe, a proven model of participatory budgeting is being implemented in Estonia, which is based on the use of Internet technologies and the VOLIS voting system (a local system of democratic procedures) developed by the Estonian Academy of Electronic Governance.

In 2018, the Tbilisi City Hall proposed its own model of participatory budgeting to citizens, launching the project "Your Idea to the City Mayor". This project is also based on internet technologies and represents another attempt by the Tbilisi City Hall to implement an innovative idea bank. Any citizen could submit their projects electronically, and after technical expertise, they were put up for voting on the website. In case of receiving a sufficient number of votes (2500 votes from registered voters in Tbilisi) within 60 calendar days, it would be sent to the city mayor for a final decision.

Kedi Municipality began implementing participatory budgeting tools in 2020, but they have been working with partner organisations since 2019 to develop a methodology/model based on participatory principles, with input and agreement from interested parties from various sectors (local residents, civic organisations, the business community, etc.)

The main municipalities and cities where participatory budgeting is implemented in Georgia are:

- Marneuli (The amount of budget cannot be found on the internet since 2018).
- Gori (Budget for 2023 is 3,000,000 GEL. Projects will be implemented through the ideas (the process is ongoing) of citizens, which requires filling a special application form).
- Kharagauli (The amount of participatory budget of Kharagauli Municipality for 2023 is 150 000 GEL. The process of receiving ideas is ongoing, and the projects will be implemented based on these ideas).
- Tetritskaro.
- Rustavi.

- Kutaisi.
- Batumi.
- Akhaltsikhe (According to the information received from Akhaltsikhe Municipality, programs related to participatory budget are not implemented in Akhaltsikhe Municipality in 2023 due to technical problems).
- Tbilisi.
- Kedi.
- Chokhatauri.
- Zugdidi.

Participatory Budgeting in Gori

Beginnings

While the concept of participatory budgeting was first introduced in Marneuli municipality in Georgia, we can say that the highest development in this regard was reached in Gori in the following years.

As mentioned above, participatory budgeting was implemented in Gori for the first time in 2016, despite the fact that it was planned for 2017[10]. In the first year, Gori was divided into five zones. Four zones were in the city, and one for residents of a nearby refugee camp. The town hall allocated 180,000 GEL for each of the zones.

During the first phase, the town hall organised information meetings in the individual zones with the help of local delegates. The involvement of the local government as an active organisational element was crucial at this point. Information sessions proved to be a key to later success.The town hall presented them with the concept and informed them about how to apply for funding for the individual projects.

Also, the town hall needed to prepare an application template for submitting the project. Its absence would discourage many citizens - they adopted the approach of "the simpler the template, the better[11].

The involvement of local youth in the information campaign turned out to be just as important. Young people walked the streets during the first year and promoted the idea of participatory budgeting among residents.To reach the best possible outcome, the town hall also involved the local media in promoting the project.

Unlike in many other municipalities and cities with participatory budgeting, Gori decided that in each zone, the project should be chosen by a consensus instead of voting. The goal was to increase

[10] Interview with Iago-Ivane Tsiklauri, who was responsible for implementation of the first participatory budget in Gori, 7. 5. 2023.
[11] Ibidem.

the involvement of local residents through joint discussions and negotiations and also to select the most necessary project. Assuming the delegates from one zone could not agree by consensus, their money would be forfeited to the other zones. An agreement was, therefore, always found.

According to Mr Iago-Ivane Tsiklauri[12], who was the first to implement civil budgeting in Gori and is considered one of the pioneers of this method in Georgia, the implementation of civil budgeting helped the development of local democracy twofold: by directly engaging local residents and letting them participate in the development of the city, and indirectly by training them in democratic practices. Despite the fact that participatory budgeting in Gori turned out to be a great success, Mr Tsiklauri sees several lingering problems.

The local delegates from the town hall should receive honoraria for the coordination of the process of participatory budgeting. In practice, it is primarily a local government official to whom the town hall adds additional duties without increasing salary. This fact can negatively affect their motivation and efficiency. However, extra remuneration for officials participating in the Participatory budgeting is not permitted by the currently valid legislation.

Another problem, according to Mr Tsiklauri[13], is that the town hall came up with, after several years of implementing projects, the need to include inspection and maintenance costs above the original budget. These were not included in the first years, causing minor problems with some of the projects.

The last problem identified in the first years of implementing participatory budgeting was the lack of visibility. Already implemented projects lacked information tables about the fact that they were implemented within the framework of participatory budgeting. This fact reduced the ownership of the given projects and the overall awareness of the real benefits of participatory budgeting in local society. Gori's participatory budget was also among the winners of calls for best practices by the Association of self-governments[14].

Current situation

Over the years, Gori became a city with the most advanced participatory budget in the country. At various participatory forums, representatives from Gori are usually the main speakers, sharing their experiences with others.

According to Dako Muradashvilii from the Civil Society Institute office in Gor[15]i, the process of implementing participatory budgeting in Gori is now more complicated than at the beginning. According to Dako Muradashvilii from the Civil Society Institute, the success of the participatory budget in Gori in recent years and its growing complexity have made implementing this method more challenging.

Gori is currently divided into 28 zones, including both urban and rural. Individual urban zones are allocated 130,000 GEL, rural 100,000 GEL to implement projects. The reason for this inequality is the fact that villages have another additional financing programme – The village support programme. For 2023, the town hall allocated an additional 3,000,000 GEL from the

[12] Interview with Iago-Ivane Tsiklauri, who was responsible for the implementation of the first participatory budget in Gori, 7. 5. 2023.
[13] Ibidem
[14] Ibidem
[15] Interview with Ms Dako Muradashvili conducted on 12. 6. 2023 during a fact checking trip to Gori.

total budget of 67,000,000 GEL, representing 4.5 per cent of the total budget, for participatory budgeting.

In 2022, Gori municipality, with the help of the Civil Society Institute, successfully implemented the project of the Participatory Budgeting Youth Club. Twenty-five young people between the ages of 14 and 28 were involved in the project. They were trained and then heavily involved in the whole process of implementation of participatory budgeting – mainly to raise awareness within the local population. Unlike in the past, when young volunteers contacted people on the streets, the youth club members visited people door-to-door. While in 2021, 52 projects were proposed, in 2022, this number nearly doubled as had risen to 92, mainly thanks to the Participatory Budgeting Youth Club.

Another specific of Gori is that, unlike in other cities and municipalities, participatory budgeting is not institutionalised, meaning its implementation does not depend on the will of the mayor of the city.

In 2023, participatory budgeting in Gori reached a significant milestone. For the first time ever, the local self-government took over from the NGO community the overall responsibility for organising the discussions regarding participatory budgeting, cutting their costs by approximately 50,000 GEL. The involvement of the local NGOs remains relevant as proper implementation will be needed to avoid ineffectiveness and corruption.

Identified problems

According to Dako Muradashvilii, the success of the participatory budget in Gori in recent years and its growing complexity have made implementing this method more challenging.

Focus on infrastructural projects

The problem with implementing projects selected by participatory budgeting in Gori is the limited imagination of project submitters. The vast majority of requests focus on a limited range of projects - infrastructure projects, playgrounds and outdoor training grounds. Prioritising the given type of project was logical, especially in the first years of participatory budgeting implementation. Gradually, however, the given needs were often fulfilled, but applicants continued to come with duplicate projects of the exact nature. According to Ms Dako Muradashvili[16] this problem was partially caused by the character of the official information campaign. The involvement of the youth club helped mitigate the negative trend, and more original projects appeared among the requests.

Tenders and Procurement

Many small-scale projects are not possible to implement due to their low budgets. The project should, in practice, be budgeted over 100,000 GEL to make a successful tender process can be conducted, since developers are not interested in smaller sums. As a result, many approved

[16] Interview with Ms Dako Muradashvili conducted on 12. 6. 2023 during a fact checking trip to Gori.

projects are “on the shelf” right now. Such cases are very damaging to the public image of Participatory budgeting.

In reaction to the situation, local self-government decided to change the system of the 28 zones in 2023. Under the new system, there is one zone for the city with a budget of 730,000 GEL. For this sum, several projects can be implemented. Villages have been divided into seven zones. In the city, there is a new minimal limit of 200,000 GEL per project. The new system can help to mitigate problems with tenders. This will, however, parallelly worsen the problem of the general focus on infrastructural projects since social projects are usually of a much smaller scale.

Ms Kintsurashvili suggests applying the given restriction only for infrastructural projects, with other projects having a limit of 25,000 GEL. Local government accepted this idea, and according to current rules, small-scale projects can be merged with infrastructural ones for purposes of tenders. However, they must be somewhat compatible, which is not always possible.

Villages are also disadvantaged under the new division of zones, as under the new system, not all communities will receive the possibility of a project compared to the past. This can lead to worsened relations among particular villages.

Lack of ownership

Locals can decide what project will win they can`t influence the outcome of the projects. They are not involved in any details of the implementation of the project. This fact significantly decreases the ownership even among people directly involved in the preparation of a particular project. The creation of designer-project groups could facilitate this problem.

Lack of visibility

A long-term problem is the insufficient awareness of the population about projects implemented within the framework of participatory budgeting. They see many results but have no idea that given projects were implemented thanks to the participatory budgeting. This further strengthens the lack of ownership among the local population. Participatory budgeting does not need only an awareness campaign about the process of participatory budgeting but also an awareness campaign on particular results.

Lack of involvement

Despite the relative success of the participatory budget in Gori, only a small part of the local population is involved. Under the given concept, the activation reached a segment of already active locals. The lack of outreach to ordinary citizens is still a present challenge, however, without it the process reached its ceiling of inclusivity.

Village mayors

According to both Mr Tsiklauri[17] and Ms Kintsurashvili[18], the lack of democratic legitimisation of village mayors is one of the biggest problems, not only for the process of participatory budgeting, but it is negatively impacting it on several levels. Local "community leaders" are de facto village mayors who are not elected by local residents, but directly appointed by the city's mayor (Gori, in this case).

Appointed community leaders often lack the trust of local residents, boycotting all participation in meetings called by community leaders, including those dealing with participatory budgeting. Involvement of the Participatory Budgeting Youth Club, and organising separate meetings helped to facilitate this situation to some degree.

Unelected community leaders also often use their resources to influence locals during the process of project selection to vote for projects that better fit their interests. They often do not tell locals that they have more options for choice, introducing them to one particular idea and hiding the fact that they can choose from more. In one case, local active youth initiated a project of a mobile youth centre with computers that several rural communities would benefit from. A local community leader mobilised all his supporters and managed to push for a different project he was personally invested.

Also, the heads of the community can be the heads of as many as 6 villages and usually tend to prefer their native settlements, further excluding some communities already divided by zones.

Elections by consensus

Unlike in most cities and municipalities, projects in Gori are, to this day, selected by consensus. Although it had a significant positive impact in the first years of implementation of participatory budgeting in Gori, nowadays, it presents an obstacle to increased involvement of local residents and their participation in the voting. With a greater number of people, the consensus is harder to reach.

Solutions and Initiatives

Study visit of Georgian MPs focused on best practices in democratically elected "Community heads"

PROBLEM:

Both experts agreed that the absence of democratic legitimacy by-elections of "community heads" presents a significant problem for proper implementation of participatory budgeting and many other initiatives in rural communities. According to Mr. Tsiklauri[19], there is a will on behalf of Georgian MPs to consider the democratic election of "community heads", but they often lack the practical knowledge needed to develop the initiative.

[17] Interview with Ms Dako Muradashvili conducted on 12. 6. 2023 during a fact checking trip to Gori.
[18] Interview with Iago-Ivane Tsiklauri, who was responsible for implementation of the first participatory budget in Gori, 7. 5. 2023.
[19] Interview with Iago-Ivane Tsiklauri, who was responsible for the implementation of the first participatory budget in Gori, 7. 5. 2023.

PROJECT:

Visegrad four countries (Czechia, Hungary, Poland and Slovakia) having a rich experience with democratic, direct elections of village mayors, could be suitable sources of best practices. A study trip for selected Georgian members of the parliament (MPs) to learn about best practices of village management by elected mayors could help to bring the given topic to the political agenda in Georgia.

The study trip would primarily focus on meetings at the highest level, providing MPs with experience from their local counterpart on legal and organisational aspects and the practical impacts of direct elections on rural areas. Nevertheless, MPs would also get an opportunity to see some of the best examples of the development of rural communities from the bottom, thanks to directly elected mayors.

In the second stage, a study trip of Georgian MPs would be followed by a more practical study trip of representatives from local municipalities. Representatives of Georgian local self-governments would get the opportunity to meet with their counterparts and learn more about the practical management of rural communities on the lower level.

IMPACT:

The project could increase awareness of Georgian MPs about the positive impacts of democratically elected heads of self-governments on the level of villages. Best practices regarding self-government on the lowest levels could be shared and transferred to a corresponding change in national legislation. According to the interviewed experts, there is an interest in implementing direct elections of heads of communities at the level of the Georgian public and individual members of parliament. The project in question could support the discussion on this topic at the highest level and provide some of the best practices.

ACTIONS:

Organisation of the study trip of Georgian MPs to V4.

Internet voting

PROBLEM:

Although implementing the participatory budget in Gori can be considered a great success in many respects, its fundamental shortcoming remains the low participation rate of local residents in voting. In the Chala district, one of the most populous, only 20 residents participated in the vote for the project in 2022. That is the minimum required for the vote to be considered binding for local administration. The situation in other districts is similar. Besides lowering the degree of ownership among the local population regarding implemented projects, such low participation also increases the danger of corruption by influencing voters.

PROJECT:

In order to increase participation in the voting, Gori should switch from consensus to standard majority voting. At the moment, the given step is being considered by the local self-administration.

Implementing the vote on the Internet could further strengthen the positive impact of the new form of voting. Nevertheless, the internet-voting should be considered to be an additional form of voting besides majority voting conducted in person. In such a manner, older people and people without biometric IDs won't be excluded from the possibility to participate in the vote.

Voting via the Internet should be carried out only after standard in-person voting. As part of the standard voting is also a discussion about the projects, the given part of the voting should be recorded. Subsequently, it should be available to voters via the Internet who could not participate in the meeting in the form of a video on the local government's website.

IMPACT:

Internet voting has the potential to bring a two-fold positive impact.

A. It can increase participation in the participatory budget, thus strengthening its democratic character and increasing the level of ownership among the local population.

B. As a pilot project, it could help to implement aspects of modern digital technologies in Georgia at the local level, thus creating necessary preconditions and providing needed experience for its implementation on higher levels.

ACTIONS:

A relatively small grant is needed to implement a given project.

1. Creation of a section for internet voting on the city's website, including design.

2. Information and awareness-raising campaign, which can be conducted with the help of the Participatory Budget Youth Club.

Independent monitoring of implemented projects

PROBLEM:

Although the transfer of know-how from the third sector and the independent implementation of participatory budgeting by the local government can be considered a success, it also risks similarly reduced efficiency and possible corruption. A relatively simple prevention of such development can be a project supporting the independent control and evaluation of the implementation of the Participatory budget by the third sector.

PROJECT:

As part of the project, a group of auditors/observators would be trained and deployed to review and evaluate the implementation of projects realized through the Participatory budget.

The project will have four stages.

A. Training of auditors/observators

B. Communication with authors of projects

C. Field visits and assessment (together with authors in the case of their interest)

D. Preparing of the report

Approximately 50 projects are being implemented per year in Gori. A group of six people would be able to conduct the monitoring in three months. The position of auditors/observators should be remunerated to avoid the temptation of bribery.

IMPACT:

Independent monitoring and evaluation of the implementation of Participatory budgeting is a necessary prerequisite for increasing the quality and positive impact of the instrument of direct democracy.

In a situation where, for the first time, the local government has assumed full responsibility for implementing participatory budgeting, this is also a means of preventing a possible increase in corruption, increasing accountability for the project outcomes and securing the fulfilment of the original project proposals.

ACTIONS:

1. Training of auditors/observators

2. Field trips

3. Remuneration for conducting coordination with the authors of projects, field trips and preparation of the report.

Social Entrepreneurship

Introduction

What is Social Entrepreneurship

Social entrepreneurship is a management process that produces both economic and social values through the improved use of resources. Also defined as a business process, that produces innovative solutions to address a social issue and subsequently mobilizes resources for social transformation. As such, organisations pursuing social entrepreneurship are of a hybrid nature because of their pursuit of multiple objectives. Their aim is to create new business models for the provision of products and services that cater to basic human needs that current economic and social institutions have failed to satisfy. [20]

As such, social entrepreneurship occurs at the intersection of the three distinct sectors defining many modern societies – the private, public, and third sectors. In this respect, the private sector responds to market forces to provide goods and services to be sold for a profit. It generates profit for the benefit of owners while providing jobs, innovations and general wealth, yet, as such, it is not suited to addressing most social problems because there is usually no profit to make.

The public sector is intended to redistribute resources received by taxes from businesses and individuals in order to provide public goods and respond to market failures. While this sector provides defence, public safety, education and a range of other public needs and social services, it has limited capacity to recognise and solve all social needs. The third sector is similar to social entrepreneurship in the fact that it mobilises individuals to provide goods and services not provided by either of the other sectors. However, what makes it distinct is the fact that the resources it generates are primarily used to sustain and grow its operations as it pursues its social missions[21].

What makes social entrepreneurship distinctive from standard NGOs is that besides fulfilling a social role, they are equally interested in creating a profit with the help of market instruments. By striving for profit, social enterprises strengthen their independence from the public sector and save funds in the state budget. The practical effectiveness of social enterprises is confirmed by the fact that they account for up to 10 per cent of European GDP.

Although social entrepreneurship is a relatively new term, the practice is not new. There were entrepreneurs during the nineteenth and twentieth centuries who made efforts to eradicate social evils. Recently most big brands and companies have adopted the concept of social entrepreneurship, and trying to address the issues in our society by opening schools in far-flung areas, educating women about family planning, making it possible for farmers and poor individuals to access low-interest credits, establishing plants for waste treatment, planting trees and going green.[22]

[20] https://www.adb.org/sites/default/files/institutional-document/826606/adou2022bn-social-entrepreneurship-definition-philippines.pdf
[21] https://www.researchgate.net/publication/221928380_Social_Entrepreneurship, p. 175
[22] https://www.managementstudyguide.com/social-entrepreneurship-history.htm

In Central Europe social enterprises most often address the problems of long-term unemployment of vulnerable people, social integration, discrimination, environmental sustainability projects, and fair work.

Social enterprises can be divided into two broad groups: Non-profit and For-profit.

Nonprofit social enterprises, while adopting business practices in generating and utilising resources, give more importance to their social mission. They are also placing service to its members or to the community ahead of profit. They have autonomous management, a democratic decision-making process, and the primacy of people and work over capital in the distribution of revenues.

Social enterprises of this type often take the form of traditional nongovernment organisations (NGOs) and civil society organisations. The Slovak social enterprise Mothers at Work[23] can serve as an example. The company focuses on employing mothers and disadvantaged people. It mainly provides cleaning of households and companies. In addition, the company also offers Nordic walking training, the rental of germicidal radiators, or the services of a virtual assistant.

For-profit social enterprises, on the other hand, are "legally incorporated as for-profit entities" and "explicitly designed to serve a social purpose"[24]. Nevertheless, the social mission is always more important, and any profit is always, to some extent, redistributed (returned) to fulfil the social mission. In the case of Slovakia, the social enterprise has to return at least 50% of its income. The company Hrhovské služby[25] - a social enterprise founded by the municipality of Spišský Hrhov in 2005- can serve as an example, mainly offering construction, reconstruction and insulation works.

Social enterprises potentially offer a wide range of advantages compared to traditional sectors. Social enterprises tend to operate with the purpose of creating value for society and also generate income (if not wealth). As a rule of thumb, the solutions they offer are supposed to be innovative, unique, and people and environment-friendly. In general, the solutions they offer are based on the triple bottom line, in concrete economic, environmental and social benefits. By tackling social problems using market-based approaches, they provide relief to public budgets. By giving primary consideration to the environment, they mitigate the ecological impact of their activities. In turn, they make a significant contribution to environmental protection. Cost-effectiveness is also a huge consideration. All of these are challenges to the sustainability of social enterprises, but the ones that can scale these are the ones that can create a huge impact[26]. With its energetic and well-developed civil society, Georgia is a fertile ground for implementing social entrepreneurship and reaping the benefits of the concept.

Social Entrepreneurship in Slovakia

An important landmark in the development of the social economy in Slovakia was the recognition of the legitimacy of social entrepreneurship as a tool of active labour market policy in 2008 when the amendment to the Employment Services Act entered into force.

[23] https://matkyvpraci.sk/#uvod
[24] https://www.adb.org/sites/default/files/institutional-document/826606/adou2022bn-social-entrepreneurship-definition-philippines.pdf
[25] https://www.spisskyhrhov.sk/obec-2/organizacie-v-obci/hrhovske-sluzby-sro-rsp/
[26] https://www.managementstudyguide.com/social-enterprises-advantages.htm

Even before the legislative amendment in 2008, some initiatives and businesses respected and applied the principles of the social economy. They were active mainly in the third sector and were supported within the framework of various projects supported by European Union resources, mainly through the European Social Fund. Nevertheless, the amendment in question created the first legislative framework for the functioning of social enterprises of labour integration.[27]

The complex legal environment for social economy entities is currently governed by Act No. 112/2018 Coll. on social economy and social enterprises.

The currently valid Slovak legislation defines social enterprise as an enterprise that[28]:

A. Carries out economic activity on a continuous, independent basis, on their own behalf and under their own responsibility

B. Whose main goal is to achieve a measurable positive social impact,

C. In which the goods or services which it produces, supplies, provides or distributes, or the way in which they are produced or provided, contribute to achieving a positive social impact,

D. If makes a profit from its activities, uses more than 50% of the profit after tax to achieve the main goal (measurable positive social impact), if distributes part of the profit according to the Commercial Code, distributes it according to procedures and rules that do not interfere with the main objective,

E. Involves stakeholders in the management of its economic activity.

Registered social enterprises and, in some cases, unregistered enterprises fulfilling an essential social role can use several benefits and support mechanisms in Slovakia.

From the point of view of the form of support for social enterprises, Slovak legislation distinguishes between direct and indirect support.

As part of direct support, there is (A) Investment aid, which can take the form of a credit, loan, waiver of guarantee fees, conditional grant, etc. The second tool is (B.) compensatory aid. It takes into account that the subject of the social economy, due to achieving a positive social impact, is at a disadvantage compared to ordinary entrepreneurs who carry out a similar activity to make a profit. The need for compensation may be related, for example, to reduced productivity in social enterprises. Unlike investment aid, in the case of compensatory aid in the form of a non-returnable financial contribution or subsidy, approval of the returnable component is not required.

Indirect financial support for social enterprises mainly includes tax breaks and support from municipalities or regions. For example, registered social enterprises can also benefit from income tax relief[29].

One of the main lessons from the practice of social entrepreneurship in Slovakia is the usefulness and necessity of their cooperation and communication with local governments. Especially due to

[27] https://socialnaekonomika.sk/socialne-podnikanie-na-slovensku/index.html
[28] https://sciendo.com/article/10.2478/euco-2022-0024
[29] https://www.podnikajte.sk/financie-na-podnikanie/podpora-socialnych-podnikov

the fact that both entities share objectives when it comes to the fulfilment of public or community interests via generating positive social impact and meeting the needs of the inhabitants[30]. Established practice includes, among other things, the establishment of social enterprises by local governments.

Social Entrepreneurship in Georgia

Legislative framework

Despite numerous attempts made by Georgian legislation and NGOs to work out a rigorous, agreed-upon definition of a social enterprise, it met with little success. To this day, there is no definition of a social enterprise at the legislative level, and neither is there relevant regulatory legislation. In addition, existing national and local regulations do not yet clearly explain the essence of a social enterprise[31].

Under the circumstances when there is no legal status for social enterprises, actors involved in the sector have to register themselves as entrepreneurial legal entities (as mentioned above, part of social enterprises are registered as limited liability companies, cooperative or individual entrepreneurs) or non-entrepreneurial legal entities. As a result, there are no *de jure* social enterprises in Georgia at the moment. Although there are many *de facto* social enterprises, these have to take the legal form of one of two traditional sectors – either private or third. In many ways, this makes it impossible for them to fully utilise the capabilities of their Western counterparts.

Social Entrepreneurship in numbers

Compared to Western countries, social entrepreneurship began to appear in Georgia with a delay only at the end of the 2000s. More precisely, in 2010, the Georgian Center for Strategic Research and Development, in collaboration with the European Foundation and the British Council, launched a joint effort to develop social entrepreneurship[32].

According to the actual data provided by the Alliance of Social Enterprises, there are 47 social enterprises operating in the country presently[33]. However, due to the absence of legislation regarding social entrepreneurship in Georgia, it is impossible to estimate the actual number of such enterprises. Aspects of social entrepreneurship are used to varying degrees by a more significant number of non-profit organisations.

According to the survey conducted for the study "Social Entrepreneurship in Georgia – Legislative Environment, challenges and international practice"[34], the environment of social enterprises in Georgia has already reached some degree of diversity.

[30] https://sciendo.com/article/10.2478/euco-2022-0024
[31] http://environment.cenn.org/app/uploads/2021/10/CENN_EU-SEED_SE-Legal-Framework_ENG.pdf , p. 20
[32] https://www.civilin.org/pdf/Social_Enterprise_geo.pdf
[33] http://www.seageorgia.ge/en/social-enterprises/all-enterprises
[34] http://environment.cenn.org/app/uploads/2021/10/CENN_EU-SEED_SE-Legal-Framework_ENG.pdf

According to the survey, the majority (36.8%) of the social enterprises surveyed (a total of 38 social enterprises participated in the survey) have been operating in Georgia for no longer than 3-5 years, on average.

Most of the respondents (34.2%) by geographical area are concentrated in Tbilisi; 18.4% are founded in Kvemo Kartli. 15.8% of the surveyed social enterprises operate in Kakheti, indicating geographically very uneven development of the concept in Georgia.

Another problem emerging from the study is the low social entrepreneurship development rate in rural areas, as only 28.9% of social enterprises operate there.

It is noteworthy that 68.4% of the employees of social enterprises have 5 to 15 employees. At that, vulnerable community members are employed only by 21.1% of the enterprises surveyed.

According to other data from 2020, most of the social enterprises in Georgia were founded as non-profit legal entities (72%).

Point of view of entrepreneurs

The study "Essence of Social Entrepreneurship through a Georgian Lens: Social Entrepreneurs' Perspectives"[35] provided some precious insight into the situation of social entrepreneurs in Georgia.

Motivation

Regarding motivation for establishing a social enterprise, most respondents (11) stated that their goal was to help facilitate the social integration of vulnerable groups. It was followed by creating employment opportunities for disadvantaged groups (7). To solve the social problems that have affected me personally, to respond to social challenges and to solve environmental/ecological issues were selected by four respondents each. Another three respondents identified the persisting lack of social services as their main driving force to establish a social enterprise.

Financing the establishment of the enterprise

Most social enterprises (11) were established within the framework of the grant competition, followed by the personal capital of founders (5) and grant from donor organisation (4). Three respondents established their enterprises thanks to donations, and two with government funding.

Funding of existing enterprise

The vast majority of respondents (14) finance their businesses from their own funds and enterprise profit. Other less common sources of funding include grants from international donors (3), state funding (2), donations (2), microcredits (1) and own private income (1).

Main obstacles

Regarding the biggest obstacles to the development of social enterprises, the respondents primarily identified the absence of a law on social entrepreneurship (12) and the lack of financial resources (9). These were followed by equally frequent lack of technical resources and lack of human resources (6 respondents both). Six respondents believed that the main obstacle to the development of their enterprises was inadequate support from the state. It was followed by

[35] https://www.mdpi.com/2076-3387/12/3/75

inconsistent business strategies (5), a lack of suitable partners (2), a lack of business skills (2) and small purchasing power of customers (1).

Another finding of the study was that the most fundamental, among many obstacles stemming from the absence of a proper legal framework, is the inability of social enterprises registered as non-profit organisations to obtain loans from banks. Financial institutions do not offer loans to NGOs for their business activities. Moreover, social enterprises are subject to VAT, and they pay value-added taxes because otherwise, they will not be able to sell their products in markets.

Key points

Based on the available data, we can identify several key trends in the development of social entrepreneurship in Georgia.

- The absence of a clear legislative framework regarding social entrepreneurship is a specific factor compared to most EU countries, crucially influencing the development of a given phenomenon in Georgia.
- Georgia lacks a sufficient number of established social enterprises with a long history of business activity. The negative impact of this fact is partially mitigated by the fact that established NGOs with many years of experience in other areas of activity are often engaged in social entrepreneurship.
- Social enterprises are established primarily by NGOs in Georgia. They perceive them as another potentially profitable activity aimed at improving the situation in their communities. Established entrepreneurs and farmers practically do not establish social enterprises in Georgia. Entrepreneurs whose primary goal is to make a profit, namely social entrepreneurship, in the context of the absence of a legislative framework and clear advantages in Georgia, do not offer any benefits, only additional expenses.
- The expansion of social entrepreneurship is not geographically uniform - the capital of Tbilisi dominates significantly. The expansion of the given practice thus largely depends on the quantity and quality of the third sector in individual regions.
- Additionally, only a few social enterprises operate in rural areas. This phenomenon is linked to the level of quantity and quality of NGOs mentioned earlier. However, we can assume that this reality has an adverse effect on the perspectives of the development of social farming.
- Development in the recent past clearly shows that social enterprises need to diversify their funding sources and rely on their own income produced by commercial activities rather than expecting funds from the government.
- Social entrepreneurship in Georgia is mainly viewed by its participants as a tool to solve social problems with commercial activities.
- Participants of social entrepreneurship stressed the importance of innovation and innovative approaches in developing social entrepreneurship.

Identified problems

I. Limited understanding of the situation

Currently, only a relatively small number of studies and materials dedicated to the state of social entrepreneurship in Georgia are available. For this reason, we do not have up-to-date and sufficiently complex information necessary for designing the right solutions for developing this type of business in the country. The research available to us, although very useful, provides us with a general, quantitative view of the issue.

To stimulate the development of social enterprises in Georgia, a map of existing businesses in at least several selected regions of the country would be helpful. This should be accompanied by more in-depth knowledge of the most established ones. The aim is to understand their current state, prior experience, challenges, opportunities and local specifics in Georgia. Such knowledge is a necessary precondition for training and mentorships that will be able to consider local specifics.

II. Lack of experience on behalf of local self-governments

Respondents from the environment of social enterprises stated during interviews[36] that the local government in Gori actively develops social enterprises and provides them with various financial assistance. However, the town hall does not have sufficient knowledge of the best practices in the given sphere, especially regarding non-financial aid instruments.

Considering the will of local self-governments to assist NGOs in developing social enterprises, proper training by EU experts could significantly increase the effectiveness of such support. By focusing on non-financial instruments, such an increase can be achieved without significant additional expenses for local self-government. "Dobrý kraj", the Development Agency of the Banská Bystrica Self-Governing Region[37], which actively supports the development of the social economy in the region, can serve as a prime example. The agency provides professional advice to local social enterprises and those interested in starting a social enterprise within the Regional Center for Social Entrepreneurship framework. At the same time, the centre also helps the local government, mainly by providing administrative and project support, participating in preparing strategic materials, and creating, planning and implementing its projects. In addition, it also provides support and advice to existing social enterprises that are established and managed by the local government.

III. Lack of alternative sources of financing

The results of the available studies show that Georgian social enterprises are primarily dependent on one primary source of funding consisting of foreign donors and grants. Long-term dependence on one source of financing without sufficient alternatives creates severe risks for the stable

[36] Interview with MS Tina Bregvadze director of the Welfare and Development Centre and other employees of the centre during the fact checking trip in Gori on 14. 6. 2023.
[37] https://rabbsk.dobrykraj.sk/socialna-ekonomika/

development of local social enterprises in the medium term. The Georgian government provided grants for the development of social enterprises even before the COVID-19 pandemic. However, these were individual challenges rather than a systematic program. Without an explicit legal definition of social enterprises, it cannot be assumed that such a program will be created.

Experience from the EU shows that the private sector and churches can be essential players in the development of social entrepreneurship. In Georgia, there are many well-established huge private companies, including banks, with capital and own social programmes. Moreover, the local Orthodox church is one of the key actors in the charity sphere, with plenty of experience working with disadvantaged people. It is, therefore, necessary to inform these actors about the possibilities and opportunities arising from social entrepreneurship.

IV. Absence of a legislative framework on social enterprises in Georgia

Indeed, despite expressions of interest from the Georgian government, social enterprises have yet to be legally defined in any way represents the most fundamental obstacle to their long-term development in the country. The given situation practically makes it impossible to develop social enterprises in the environment of already established companies, which would be able to create stable jobs for disadvantaged people and people from vulnerable groups in the presence of concessions and benefits from the state. At the same time, it prevents access to bank loans for social enterprises founded by local NGOs.

The European best practice has shown that a bottom-up approach is the most appropriate when implementing social entrepreneurship. In practice, this means supporting existing social enterprises, analysing their functioning and specific economic conditions, and adopting the necessary legislation at the national level.

Georgia is a suitable country for supporting this approach. Currently, there is no legislation regarding social entrepreneurship at the national level. At the same time, in recent years, there has been the development of several social enterprises followed by the establishment of their cooperation with local self-governments.

Proposed solutions

Considering the low rate of development of social entrepreneurship in Georgia, its development requires a systematic approach characterized by stakeholder training, analysis of the current situation and implementation of pilot projects. This effort should provide us with the knowledge necessary to prepare legislation on social entrepreneurship in a form that would reflect local specificities, obstacles and opportunities. The proposed approach has four main stages.

I. Study

PROBLEM:

Lack of understanding of the current situation of social entrepreneurship in Georgia.

ACTIVITY:

Despite several studies, information on the state of social entrepreneurship in Georgia remains incomplete and outdated in the context of the absence of legislation and state supervision.

This stage aims to update and deepen knowledge about the current state of social entrepreneurship in Georgia. Among other things, the study will also serve as introductory informational material for experts from the EU who will be involved in other planned stages of the project.

The following steps are planned for the given stage:

1. Identifying established social enterprises in Tbilisi, Shida Kartli and Kakheti regions.

2. Preparation of the open-ended questions questionnaire in cooperation with European experts on social entrepreneurship.

3. Semi-structured interviews with representatives of Georgian social enterprises.

4. Interviews with local self-governments and relevant state institutions.

5. Fact-checking trip of EU experts to Georgia, visits of local social enterprises, local self-governments and relevant state institutions.

6. Preparation of the study.

IMPACT:

Actual in-depth knowledge of the situation of social enterprises in Georgia, which will create a framework for other stages of the project.

II. Training and mentorship programme for representatives of the local self-government

PROBLEM:

Lack of experience on behalf of local self-government

ACTIVITY:

The project will have three stages.

A. Analysis of the current state of social entrepreneurship in the Shida Kartli region.

The analysis will aim to identify the possibilities of more effective development of local social businesses with the help of local self-government. The analysis will be conducted based on interviews with representatives of social enterprises in the Shida Kartli region in cooperation with European experts. The findings will be summarized in a report, based on which training will be prepared for representatives of local self-government.

B. Training for representatives of local self-governments.

The goal of the training will be to acquaint the relevant representatives of local governments with the best European practices in the areas that local social enterprises identified as the most problematic.

C. Study trip

A study trip to a selected EU country will provide trained representatives of local self-governments with the opportunity to see how cooperation between local self-governments and social enterprises works in the EU.

D. Mentorship

As part of the last stage of the project, trained local governments representatives will be given the opportunity to prepare and successfully implement, in cooperation with European experts, at one non-financial tool for supporting social enterprises.

IMPACT:

As a result of the project, local self-government will be able to support local social enterprises even more effectively without putting additional pressure on the local budget.

REQUIREMENTS:

1. Expert fees for interviews, report, training and mentorship.

2. Training in Georgia

3. Study trip to Slovakia.

III. Training and awareness campaign for stakeholders from the private sector

PROBLEM:

The lack of alternative sources of financing

ACTIVITY:

The aim of the awareness campaign will be:

1. To boost the visibility of social entrepreneurship among stakeholders from the private sector and church.

2. To inform given stakeholders about the advantages of social entrepreneurship for disadvantaged communities and about the advantages of support for their brand.

3. To encourage these stakeholders to get involved in developing social entrepreneurship in Georgia.

The project should be based on a workshop for relevant representatives of the private sector and the church. During the workshop, participants will be:

1. Presented with the research results of the project no. 1.

2. Informed about best practices of social entrepreneurship by guest experts from the EU.

3. Informed about best practices, tools and advantages of supporting social entrepreneurship by their European counterparts.

As a follow-up, participating stakeholders will have an opportunity to take part in a mentorship programme facilitated by experts for the EU.

IMPACT:

As a result of the project, alternative funding sources, independent from the government and foreign donors, should be created for local social entrepreneurs.

IV. Study trip of Georgian MPs to EU

PROBLEM:

Absence of a legislative framework on social enterprises in Georgia.

ACTIVITY:

Several Georgian MPs involved in the topic of social entrepreneurship will visit selected EU countries to learn about best practices. They will have an opportunity to meet their local counterparts local high-ranking officials, and developed and established local social enterprises. Back in Georgia, selected MPs will participate in meeting/conference with representatives of Georgian social enterprises, churches and donors from the private sector. They will be able to discuss acquired knowledge and experience in the local Georgian context. Stress should be put on best practices in creating and facilitating permanent interdepartmental working groups dealing with social entrepreneurship.

IMPACT:

MPs will be provided information, practices, and local specifics needed for preparing Georgian legislation on social entrepreneurship.

Social Agriculture

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Introduction

What is social agriculture?

Social agriculture (also known as social farming) has many definitions. However, most identify the same aspects, allowing us to conceptualize this phenomenon with relative precision.

European Economic and Social Committee (EESC) defines[38] social farming as a multifunctional view of agriculture that combines farming with social services/health care at the local level, aiming at improving social and environmental awareness following social and solidarity principles. The EESC emphasizes two main elements of social farming, a) the activities take place on a farm or market garden, and b) they are designed for people who – either temporarily or permanently – have specific needs, including educational needs. Regarding activity, the EESC defines social farming as a cluster of activities that use agricultural resources – both animal and plant – to generate social services in rural or semi-rural areas, such as rehabilitation, therapy, sheltered jobs, lifelong learning and other activities contributing to social integration.

The project „Social Farming, opportunities and Challenges for Young People in Europe“, on the other hand, identifies[39] the main actors of social farming as agricultural enterprises and market gardens working with a wide array of beneficiaries, which may include people with physical, mental or emotional disabilities, socially disadvantaged, young offenders and many others. The aim of this work is to help to better integrate these groups into the majority society.

Social farming can also be viewed as a proactive and innovative practice, a possible response to the needs of the population, both from a social, economic, and environmental point of view, as well as for an expanded offer of services to the people in terms of agricultural production[40].

Yet another definition views it as a generative approach that generates bonds and restores lifeblood to urban and rural communities through networking, food production, and the practice of local welfare[41] [4].

Based on the above presented and many other definitions, we can identify the main characteristics of social farming. It is an approach, which is newly emerging, generative and multifunctional.

In addition to helping disadvantaged people with their integration, social farming helps maintain jobs and services in the countryside, prevents the depopulation of rural areas, and thus has implications for the development of non-production functions of agriculture. By doing so, it

[38] https://sofaredu.eu/what-is-social-farming/
[39] https://socialfarmyouth.eu/
[40] https://www.sciencedirect.com/science/article/pii/S2666154322001879#bib2
[41] https://www.sciencedirect.com/science/article/pii/S2666154322001879

supports the sustainability of agriculture, landscape quality, water management, biodiversity, cultural monuments in the countryside, etc. As it has excellent potential and good results in many European countries, it can also be a successful practice in Georgia due to its agricultural character.

Actors:

The main actors are agricultural enterprises, farms and market gardens. Beneficiaries include a wide variety of groups, such as people with special needs and socially disadvantaged people, but in some cases, also the wider public. The main aims of social farming in relation to these groups are their integration, rehabilitation, therapy, job creation, learning and awareness raising. It uses tools such as agricultural resources, networking, and food production to achieve these aims.

Social agriculture in Czechia

The phenomenon of social farming began to appear in Czechia in the context of the development of alternative agricultural systems aimed at the extensification and sustainability of this sector of the economy.

After partial practical activities and theoretical projects between 1990 and 2010, the current wave towards the definition and conceptual development of social agriculture was started in 2013. An essential element that shaped the form of social farming in the Czech Republic is the fact that it was a bottom-up process. The concept of social agriculture in its current form came to the Czechia based on international projects. The basic ideas of the concept were relatively quickly adopted by several farms and actors who initiated their further promotion[42].

Social farming in the Czech Republic currently has several characteristic features. Social agriculture in the conditions of the Czech Republic is not therapy in itself, and farmers are not in the position of therapists. Therefore, a farm focused on social agriculture is not a specialized treatment facility. Although people can benefit from its support services and from participating in agricultural activities in a non-clinical environment, its employees do real work and contribute to the local economy and community through their active involvement. In addition to work activities, people can participate in educational or retraining programs that social farms offer as part of their activities. A social farm in the conditions of the Czech Republic must be able to manage economic risks independently and is liable for the results of its business activity with its assets[43].

As such social farming links responsible farming that adheres to good agricultural practices with elements of social inclusion of people with disadvantages. It belongs to opportunities ranging from integrative employment to job training, to social services and therapeutic activities, to on-farm training, while the social farm also becomes an important community and revitalising element in a particular locality.

[42] https://eagri.cz/public/web/file/673618/dobra_praxe_04_online.pdf
[43] https://www.szif.cz/cs/CmDocument?

Several ministries shape the concept and practical implementation of social farming in the Czech Republic. The Ministry of Agriculture is the creator and manager of the agricultural policy of the Czech Republic and defines the rules for farmers in the concept of social agriculture. Furthermore, it is the implementer of the Rural Development Program (PRV), within which it is possible to obtain funds for partial activities connected with social farming.

Regarding social agriculture, the Ministry of Labor and Social Affairs is the creator and implementer of related social policies (e.g. employment). Another vital source of support and rules is the Operational Program "Employment"[44], through which it is possible to obtain funds for various activities implemented within the concept of social agriculture.

Currently, there is a clear distinction between entities that were initially agricultural and only later included the offer of social activities and entities, where the opposite procedure was the case, i.e. agricultural activities complemented the portfolio of social services and educational programs[45]. More commonly, agricultural activities are developed in addition to existing activities as a form of therapy, a means of pedagogical development, or a tool for social business. Agriculture then serves as a complementary activity whose economic outcome is usually secondary. The opposite approach, starting with an agricultural enterprise that developed into the social sphere, occurred in the minority of cases, which is to a certain extent caused by the overall orientation of agriculture on the intensive fulfilment of the production function and inhibition of other possible functions.

Several years of experience in the Czech Republic with social farming demonstrates the many advantages of this approach, but also several challenges and obstacles to its development. Regarding benefits, respondents from among local social farms mostly identified[46] benefits for society as a whole (prevention of criminal phenomena, etc.), followed by improving the quality of life of People with health or social problems and other special needs since it improves the mental and physical well-being of disadvantaged people. In addition, through social farming, people can get new experiences and skills, which they could not obtain anywhere else. Social farms positively contribute to the local community by employing disabled or socially disadvantaged people from the surrounding area. It also positively affects the quality of life of the disabled person's whole family as it offers services directly to the place where the person resides. From a financial point of view, respondents identified diversification of farm income, although the specific mechanism remained unclear.

The weaknesses of the given approach were identified as scattered activities, an insufficient salary, burnout syndrome and psychological difficulty in the work of social workers, workers in social services and work assistants. Furthermore, these include the reduced work performance of employees (clients) due to their disability, the risk of an accident at work and indifference towards farming.

Nevertheless, the listed weaknesses can be significantly mitigated by awareness of suitable strategies and methods. Meanwhile, the positive impact of social farming on target groups is well demonstrated by the experience of the Czech Republic and other European countries.

Examples of good practice in the Czech Republic include the recently awarded social farm Květná zahrada, https://www.kvetnazahrada.cz/, which won the Social Business Awards in regional

[44] This is one of the operational programmes of the European Social Fund, which the Ministry of Labour is responsible for.
[45] http://www.socialni-zemedelstvi.cz/wp-content/uploads/2017/10/social-farms-in-visegrad-countries-web.pdf
[46] https://mendelnet.cz/pdfs/mnt/2017/01/23.pdf, p. 369

development. The farm has a long-standing partnership with the local municipality and nearby towns, provides care for young adults leaving foster care. Another example is St. Procopius Orchards, https://www.sady-prokopa.cz/, where, in addition to producing and processing apples, they create integrative jobs, but also take care of the quality landscape. The farm is in the Ministry of Agriculture's Demonstration Farms program.

Models of Social Agriculture in Slovakia [47]

In Slovakia, six basic models of social agriculture can be identified depending on such factors as the leading actor, his motivation, target group, social value and impact.

Model 1: Agricultural enterprises and farms

By adopting aspects of social farming agricultural enterprises and farms usually aim to diversify their activities, to create additional value and support the community. They focus primarily on people with low education, long-term unemployed and disadvantaged persons. From the point of view of social value, they contribute to the work and social inclusion of target groups, their education, and the care of non-productive greenery. They often also provide services for the village or community. Overall, they thus contribute to increasing the district's attractiveness.

Model 2: Small family and community farms

The target group for the given model is family or community members, and their employment is the goal. From the point of view of social value, the given model ensures work and social inclusion. From the point of view of social value, the given model ensures work and social inclusion, which contributes to increasing the availability of services.

Model 3: Enterprises established by subjects of local and regional self-government

By establishing social enterprises local and regional self-governments fulfil their competencies by creating non-market services for citizens and visitors. This leads to an increase in employment and the quality of life of local residents.

Model 4: Charity and humanitarian organizations

The involvement of people on the margins of society in social farming is a tool for work therapy and self-sufficiency for charities. It helps to ensure clients' basic needs and reduce social transfers.

Model 5: Social service providers

For social service providers, social farming is a possible type of therapy for clients, increasing their quality of life.

Model 6: Non-profit organizations using agricultural resources

[47] Marcela Chrenekova

For non-profit organizations, social farming is a tool for providing non-market services to the public with the aim of helping the development of civil society.

Similar suitable models can be identified for Georgia as well. Chreneková recommends the following models:

Model 2: Small family and community farms

The suitability of the given model is reflected in the nature of Georgian agriculture, the pillar of which is small family farms or cooperatives.

Model 3: Enterprises established by subjects of local and regional self-government

Local self-governments in Georgia have enough experience cooperating with the third sector and implementing similar initiatives. Therefore, they may become one of the driving forces implementing elements of social agriculture in Georgia.

Model 6: Non-profit organizations using agricultural resources

The experience of the Czech Republic shows that the successful implementation of social farming can be initiated and achieved from the bottom up with the help of the third sector. The high level of development of the sector of non-profit organizations and their experimentation with social farming create good conditions for using this strategy in Georgia.

Model 7: Enterprises/Initiatives Established by the church

The Georgian Orthodox Church has enjoyed an exceptionally high level of credibility in society for a long time. At the same time, it is an institution that has rich experience with charitable activities, thanks to an extensive network of its own charitable organizations. Therefore, in the case of Georgia, the Church can become a crucial partner in implementing social farming in the country.

Agriculture and Social Farming in Georgia

General Statistics

Agriculture is a traditional sector of the economy in Georgia. Due to the difficult socio-economic situation that was in the country in the first half of the 1990s, part of the population returned to the countryside to work in agriculture.

In 1996, the share of agriculture in the country's economy was 34%, which gradually declined to 7.8% in 201[48] and 7 in 2022[49]. Moreover, in 2019, about 41% of the population still depended on agriculture, which is a phenomenon typical for low-income countries.

These high numbers contrast with the low productivity of local agriculture. The share of income from selling agricultural production in the total income of households in 2022 was 6,5 per cent, with the average monthly income from selling agricultural production per household being 89,5

[48] https://www.transparency.ge/sites/default/files/georgias_agriculture_sector.pdf, p. 7.
[49] https://www.geostat.ge/en/modules/categories/196/agriculture

GEL (31,82 euros)[50]. In 2018, the average labour productivity of agricultural workers was 407 GEL per month, which is five times lower than the average productivity of the country's economy.

Among other sectors, agriculture is traditionally in the last place by average labour productivity. Low labour productivity is the leading cause of poverty for agriculture workers[51]. This factor is partially caused by the fact that an agricultural household in Georgia, on average, holds 1.4 hectares of land[52]. The basis of Georgian agriculture is still not large farmers and cooperatives but small owners who grow most of the production for their own consumption.

It is worth noting that, despite the limitations of Georgian agriculture mentioned above, this sector has long been one of the priorities for the government. As agriculture is considered a traditional and priority sector in Georgia, governments are trying to promote agricultural development; consequently, significant funds are being spent from the country's budget.

Vulnerable groups

Nevertheless, due to the low productivity of local agriculture, vulnerable groups in rural areas face additional obstacles to their full integration into society. Although rural populations can be considered disadvantaged *per se* in the Georgian context, earlier research conducted by The Food and Agriculture Organization of the United Nations identified the following especially vulnerable groups in Georgian rural areas: Internally displaced persons, Persons with disabilities, and Ethnic and religious minorities[53].

Georgia has 273,000 registered internally displaced persons (IDPs), who account for 7.3 per cent of the total population. This is one of the highest per-capita shares of IDPs in the world. Internally displaced persons usually reside in areas adjacent to the border zones and in the capital, Tbilisi, which contains almost 39 per cent of all IDPs. Nevertheless, about 25 per cent of all IDPs live in rural areas. Many IDPs traditionally had rural livelihoods before the conflict, but most do not own land or livestock after resettlement. According to an assessment from the World Bank, "not owning a house prevents long-term planning and also means that they lack collateral and access to finance for entrepreneurial activities"[54].

The 2014 census showed that there were 100,113 registered persons with disabilities in Georgia, while the Social Service Agency had registered 118,651 persons with disabilities receiving social assistance as of March 1, 2015, and 125,104 in 2017[55]. 86.2% of employed persons with disabilities were self-employed, while the same figure for the rest of the employed population was 53.6%. As of 2014, only 4.8% - 4,571 persons were hired (as contracted employees) out of 96,102 persons with disabilities in the age group of 15 years and older.

As of 2014, the average persons with disabilities (PwD) employment rate in EU countries is 33.6%, which is seven times higher than in Georgia. It is widely accepted that, in reality, many more people have disabilities but either have little information or do not want to be registered as persons with disabilities due to the associated social stigma. According to UNICEF's 2015 Welfare Monitoring Survey (UNICEF, 2015), 42 per cent of Georgia's population believes that it is at least

[50] https://www.geostat.ge/media/54293/soflis_meurneoba_2022.pdf, p. 20.
[51] https://www.transparency.ge/sites/default/files/georgias_agriculture_sector.pdf, p. 9.
[52] https://www.fao.org/3/ca9822en/CA9822EN.pdf
[53] https://www.fao.org/3/ca9822en/CA9822EN.pdf
[54] https://www.fao.org/3/ca9822en/CA9822EN.pdf, p. 81-82.
[55] https://idfi.ge/public/upload/IDFI_Photos_2017/idfi_general/pwds_statistics_eng.pdf, p. 3.

partially problematic for a household to reveal that they have a child with disabilities in the family, and 32 per cent believe that parents would prefer to hide that they have a child with disabilities.

Based on the 2014 General Population Census[56], 86.8% of the population are ethnic Georgians, 6.3 % - Azeris, 4.5 % Armenians, 0,7 per cent Russians and 0,4 % Ossetians. The share of ethnic minorities has seen a decline, from 16.2 per cent in 2002 (Geostat, 2002) to 13 per cent in 2014 (Geostat, 2014). The rate of out-migration among ethnic minorities is significantly higher than the rate of out-migration of ethnic Georgians. Access to rural advisory services and other public services is documented to be worse for ethnolinguistic minorities because of language barriers[57].

Social farming in Georgia - Case of the Welfare and Development Centre

Social farming is currently only a little widespread and developed phenomenon in Georgia. This fact is related to both the low level of development of local agriculture and the absence of a legislative definition of social entrepreneurship.

Under the legislative void, bigger farmers have little incentive to employ people from vulnerable groups. This is especially true in the case of people with disabilities. Creating such jobs without state support not only does not benefit big farmers but also means additional expenses for them - for example, to build barrier-free access. As a result, the gradual development of social farming occurs in Georgia practically exclusively at the level of NGOs, which diversify their activities concerning beneficiaries with the help of social farming.

About the centre

Welfare and Development Centre, a well-established NGO from Gori, provides an excellent example of opportunities social farming provides to Georgian NGOs and the obstacles they have to deal with.

The Welfare and Development Centre covers three municipalities of the Shida Kartli region – Gori, Khashuri and Kareli- including municipal centres and surrounding villages. On average, the organization works with 150 beneficiaries with disabilities per day. The NGO has daily centres, which provide education and extension of practical skills. In Gori, it also offers three therapies: physiotherapy, logaoedic, rehabilitation for children, psychology, massages, early development centre for children up to seven years and early diagnostics. The centre also provides beneficiaries with meals three times a day and free transport in case they live in rural areas.

The Welfare and Development Centre runs three established social enterprises email jewellery (according to traditional Georgian technology), a pottery workshop and the tailoring of special pillows for people on wheelchairs. Besides the three enterprises, which are part of the therapy, the NGO also created two full-time jobs for disabled persons who work as teachers and three part-time jobs in the tailoring workshop.

[56] https://migration.commission.ge/files/census_release_eng_2016.pdf, p. 8
[57] https://www.fao.org/3/ca9822en/CA9822EN.pdf, p. 82

According to its Director[58], the centre has, over the years, been greatly supported by the local self-government in Gori, which, among other things, provides it with free premises.

Potential for social farming - obstacles and opportunities

As part of further development, the centre would like to use its relatively large plot near the centre for social farming purposes. Building greenhouses would allow them to produce a wide variety of products for their needs and for sale. One of the possibilities is the cultivation of flowers, which the centre could then sell in ceramics made by its beneficiaries in the ceramics workshop. The second option is the cultivation of strawberries and raspberries, which they can advantageously sell at the local market in Gori, especially in winter. A third option is to grow crops such as tomatoes, which are expensive in the winter, to reduce the centre's food preparation costs.

An interesting Western practice in the case of the centre could be establishing cooperation with large local farmers on aromatherapy and chemotherapy. The initiative in question would expand the offer of care provided to clients and, at the same time, help spread the idea of social agriculture among local large farmers.

Despite opportunities provided by social farming, the centre faces several serious obstacles. First of them is the fact that the centre does not own its premises, only rents it (although for free, or at a symbolic price). Under such circumstances, donors are unwilling to provide centre grants for constructing new buildings or even heated greenhouses.

Also, due to no legislature regulating social entrepreneurship in Georgia, the centre is afraid that more intensive farming on rented plots with the selling of production might lead to additional taxation from local or state authorities.

Moreover, unlike their counterparts in other European countries, local social farms can't so easily sell their production to facilities owned by local governments, as they often have their own agricultural and processing enterprises. Local governments are willing to actively support social enterprises despite the absence of the necessary legislation, but they are often unaware of non-financial assistance tools.

Identified problems

The essence of the problems of social farming in Georgia is in many ways similar to the general problems of social entrepreneurship in this country. Obstacles preventing its development are structural and result mainly from the absence of legislative regulation of social entrepreneurship at the state level.

In the case of social farming, compared to social entrepreneurship as a whole, the possibilities of its development are limited by one more fundamental negative factor: the low level of development and efficiency of Georgian agriculture compared to other sectors of the economy.

A comparatively small number of larger farmers-entrepreneurs in Georgia, in the vast majority, do not have free capital to adjust workplaces for the needs of people with disabilities. Especially

[58] Interview with MS Tina Bregvadze director of the Welfare and Development Centre during the fact checking trip in Gori on 14. 6. 2023.

since, in the context of the non-existent legal regulation of social business, they cannot expect any benefits or concessions from the government in exchange for the funds spent.

As in the case of social entrepreneurship in general, the main factors hindering the development of social farming have a top-down character yet require bottom-up initiatives to address. Currently, social farming is slowly developing among local NGOs, which experiment with this approach as an additional means of therapy and income.

More specifically, Georgian NGOs involved in social farming face mostly problems linked to (A.) Unused support potential from the state and non-state actors and (B.) Absence of stable access to customers.

Conducted interviews[59] imply that local self-governments in the Shida Kartli region of Georgia are eager and willing to support NGOs involved in social entrepreneurship and farming. Although their assistance also includes some instruments of non-financial help, such as free rent of buildings and plots, it is mostly based on financial support. According to interviewees, the reason is that responsive employees of local self-government are not aware of most non-financial support instruments. This reality significantly limits the array of support local self-governments can provide to Georgian NGOs involved in social farming while spending no extra expenses from the local budget.

Another mostly undeveloped source of financing for social farms and social enterprises, in general, is the Georgian private sector. The Western experience shows us that banks are among potential donors and supporters. In this respect, the banking system in Georgia is well-developed, with several established and stable banks. In addition, most of them already have experience allocating some of their capital for development projects and grants. For example, the Bank of Georgia was the first financial institution in the country to join the EU4Business-EBRD credit line in 2016; since then, it has funded more than 100 landmark projects in almost all the sectors of the economy: manufacturing, agriculture, construction, medical services and hospitality[2].

Different from social farms in the Czech Republic and Slovakia, Georgian NGOs can only sometimes count on local government's support by becoming a priority supplier for state institutions such as schools or hospitals. Under current circumstances, social farming in Georgia is by local NGOs often viewed as a means of increased self-sustainability by producing its ingredients for cooking and not as a source of additional income. One option might be to seek other possible clients in the private sector, including gastronomy focused.

Proposed solutions

I. Study of the current situation of social farming in Georgia

The study aims to provide up-to-date information on the current situation of social farms in the Tbilisi and Kakheti regions. These should include the number of social farms, the level of their development, and the identification of obstacles, advantages, needs and plans. The regional focus is not arbitrary. According to available data, Kakheti is a region where social farming is most

[59] Interview with MS Tina Bregvadze director of the Welfare and Development Centre and other employees of the centre during the fact checking trip in Gori on 14. 6. 2023.

developed. Tbilisi also has a higher-than-average number of social farms, and local NGOs are close to possible purchasers – hotels and restaurants.

The following steps are planned for the given stage:

- Identifying established social enterprises in Tbilisi and Kakheti regions.
- Preparation of the open-ended questions questionnaire in cooperation with European experts on social entrepreneurship.
- Semi-structured interviews with representatives of Georgian social enterprises.
- Interviews with local self-governments and relevant state institutions.
- Fact-checking trip of EU experts to Georgia, visits of local social enterprises, local self-governments and relevant state institutions.
- Preparation of the study.

II. Creation of the quality mark

The given quality mark will aim to mark local social farms fulfilling specific criteria. In the context of the absence of legislation and a clear definition of social farms, the given quality mark will help create specific criteria for what is and what is not a social farm.

Giving quality marks will help restaurants and hotels to identify reliable suppliers from among social farms. To hotels and restaurants aimed at clients from the upper and upper middle class, who are aware of social entrepreneurship, giving a mark of quality will improve their image. Hotels and restaurants will receive. Businesses involved in the project will receive small information brochures in which their visitors can learn about the quality mark and specific social enterprises that supply raw materials to the hotel or restaurant. This approach can help them attract new customers from their focus group.

Obtaining the quality mark should later enable the participating social farms to further promote their products, the possibility of additional networking and education, and participation in events to promote the sale of social economy products. Moreover, in the longer term, the mark of quality will motivate other social farms to improve their work to meet the standards and get better customer access.

Lastly, the quality mark will help increase awareness of people from disadvantaged communities and the possibility of their practical and socially beneficial involvement in the economy. In this way, it will contribute to the fight against harmful stereotypes and prejudices.

III. Awareness campaign

The aim of the awareness campaign is to inform potential customers from among hotels and restaurants about the project as well as quality/collective mark, its advantages and possibilities for cooperation as well as potential customers. The awareness campaign should be divided into two phases.

The first phase shall focus on communication with potential customers from among hotels and restaurants with the aim of finding those willing to join the project– through fairs, conferences, and promotions across multimedia channels.

The second phase should be focused on consumers and it will be launched later, shortly before the start of actual cooperation between restaurants/hotels and local social farms. The aim is to inform customers about social farming, the project and the fact that hotels or restaurants participate in it.

IV. Pilot project cooperation social farm hotel/restaurant

Actors from the hospitality segment, such as hotels and restaurants could use their contribution to the social responsibility in further campaigns to attract continuous customers. The project's main activity is the establishment of active cooperation between hotels or restaurants and social farms under the collective brand. This cooperation will give the producers from among the social farms involved in the project stable customers.

Mitigating the negative impact of climate change on ABL communities

by Tomáš Baranec, co-authored by Attila Varga, Zsofia Hamza, Zoltan Rozsa

edited by: Alexandra Tothova

Impact of climate change on Georgia

Expected general impacts of climate change

According to the Asian Development Bank[60], average temperatures in Georgia have increased steadily since the 1960s, and are projected to rise more than the global average by the end of the 21st century. By the 2090s, the average temperature in Georgia is estimated to increase between 1.4°C to 4.9°C above the 1986–2005 baseline for emissions pathways RCP2.6 and RCP8.5, respectively.

Among other consequences of climate change, such as heat waves, rapid retreat of glaciers is expected. This is likely to shift the regional hydrological regime, increasing the risk of flooding and landslides, thus ultimately driving transitions in local ecosystems.

As of 2010, assuming standards of protection up to a 1 in 25-year event, the population annually affected by riverine flooding in Georgia is estimated at 15,000 and the expected annual damages at 73 million USD. Socio-economic development and climate change are both expected to increase these figures. River flooding will also likely increase sediment and affect dam management[61].

Riverine and coastal floods with a 10-year return period could affect 5% of Georgian GDP (and 10% of GDP in Tbilisi). In the case of the Shida Kartli region, approximately 2% of local GDP is lost due to the impact of floods.[62] In the case of Tbilisi, 6% of GDP is affected by floods; in the case of Ratcha Letchumi and Kvemo Svaneti, 3 %. Approximately two per cent are also affected in regions of Mtskheta-Mtianeti, Ajara, Samtskhe-Javakheti, Samegrelo, and Zemo Svaneti. On the other hand, in the case of Imereti, Kvemo Kartli and Kakheti, this figure reaches only one per cent.

Due to a combination of political, geographic, and social factors, Georgia is recognised as vulnerable to climate change impacts, ranked 40th out of 181 countries in the 2020 ND-GAIN Index[63]. The ranking was confirmed tragically in August 2023 by a landslide near the village of Shovi, which claimed the lives of at least 29 people[64].

[60] https://www.adb.org/sites/default/files/publication/707481/climate-risk-country-profile-georgia.pdf
[61] https://www.adb.org/sites/default/files/publication/707481/climate-risk-country-profile-georgia.pdf
[62] https://www.gfdrr.org/sites/default/files/Georgia.pdf
[63] University of Notre Dame (2020). Notre Dame Global Adaptation Initiative. URL: https://gain.nd.edu/our-work/country-index/
[64] https://civil.ge/archives/554327

In the target region of the study, Shida Kartli, the climatic change manifests itself primarily by prolonged periods of droughts interrupted by destructive flash floods.

Flash floods in Georgia

Concept

Flash flood refers to flooding that begins within 6 hours, or often within 3 hours, caused by heavy rainfall (or other cause). Flash floods usually occur in lowlands, along rivers or lakes or in washes. The intensity of the rainfall, the location and distribution of the rainfall, the land use and topography, vegetation types and growth/density, soil type, and soil water content all determine just how quickly the flash flooding may occur as well as the place where it will happen.

Causes

The causes of flash floods may be divided into two main categories: natural causes, as a result of predominantly meteorological factors, and anthropogenic causes stemming from human activity.

The most common natural causes

Cloudbursts

Cloudbursts refer to a sudden, hefty rainfall, usually local in nature and of brief duration. Most so-called cloudbursts occur in connection with thunderstorms and are especially common in mountainous areas. The effects of heavy rain are especially striking on mountain slopes because the falling water is concentrated in valleys and gulleys. Therefore, mountain cloudbursts cause sudden and destructive floods.[65] There is no unified definition of a cloudburst regarding the rainfall rate. According to some definitions, a cloudburst is a rainfall rate equal to or greater than 100 millimetres per hour[66]. According to others, one millimetre per minute[67].

Meltwater

Meltwater is water released by melting snow or ice, including glacial ice, tabular icebergs and ice shelves over oceans. Meltwater is often found during early spring when snow packs and frozen rivers melt with rising temperatures and in the ablation zone of glaciers where the rate of snow cover is reducing[68].

River/Stream overflowing

Excessive rains over long periods of time can cause the rivers and streams to swell and overflow their banks, causing flash floods.

[65] https://www.britannica.com/science/cloudburst
[66] https://in.rediff.com/news/2005/aug/01gi1.htm
[67] Swedish weather service SMHI
[68] https://www.definitions.net/definition/meltwater

Blocked or improper drainage system
Flash flooding occurs when it rains heavily, but the drainage system is either blocked or inefficient enough to take in such vast amounts of water.

Slow-moving and trapped thunderstorms
Slow-moving thunderstorms move slowly over an area, dumping a large amount of rain there and consequently causing flash flooding. Thunderstorm clouds in mountainous areas are sometimes trapped between the mountains or unable to cross past a high mountain, resulting in them dumping all the rainwater in one place, causing a flash flood.

Upstream thunderstorms in mountainous areas
When thunderstorms occur upstream in mountainous areas, the runoff joins the rivers coming downstream, which are flooded if they can't take in the load of the new water.[69]

Glaciers and debris flow
In the past, glaciers and debris flow disasters caused flash floods in Georgia in areas around Mt. Kazbegi. Meanwhile, there is strong evidence for a significant acceleration of glacier area loss in the Greater Caucasus between 2000 and 2020.[70] Flash flooding often happens so quickly that people are caught off-guard, their situation may become dangerous if they encounter the high, fast-moving water while travelling. If people are at their homes or businesses, the water may rise quickly and trap them, or cause damage to the property leaving them without a chance to protect it.[71]

The most common or potential anthropogenic causes

Deforestation
Forests help reduce the speed and amount of water of a flood as their roots help water percolate down into the ground more easily and swiftly, but in case of deforestation, this buffer zone is removed, and flood water is allowed to reach the area (in plain areas and down a mountain slope) in full force causing a flash-flood in the area.

Dam failures and breaks
One of the most common human-induced causes of flash flooding is dam failures or breakage, which can cause flash flooding in a vast area.

Climate change
Climate change is caused by human activities, which results in erratic weather patterns and extreme weather events like hurricanes, etc., causing flash floods.[72]

Consequences

Flash floods may cause a wide variety of negative consequences on the level of individual, local community and state. Among the most visible consequences of flash flooding are

[69] https://www.envpk.com/flash-floods-causes-effects-prevention-and-management/
[70] https://tc.copernicus.org/articles/16/489/2022/tc-16-489-2022.pdf
[71] https://www.weather.gov/phi/FlashFloodingDefinition
[72] https://www.envpk.com/flash-floods-causes-effects-prevention-and-management/

loss of life and property. Moreover, by damaging communication links and infrastructure, flash floods often lead to a standstill in economic activities, resulting in a loss of livelihoods. This often leads to decreased purchasing and production power. Frequent and unchecked flooding may further lead to mass emigration and depopulation of affected regions.

The huge psycho-social effects on flood victims and their families can traumatise them for long periods. The loss of loved ones can generate profound impacts, especially on children. Displacement from one's home, loss of property and livelihoods, and disruption to business and social affairs can cause continuing stress. Overcoming these losses can be overwhelming and produce lasting psychological impacts.

All the above-mentioned negative consequences can hinder economic growth and development of the whole region, which can even lead to destabilisation on the national level.[73]

Droughts in Georgia

Causes

Flash floods are just one of the negative consequences caused by climate change in Georgia – droughts are the other one. Evaporation increases as the atmosphere warms, which increases humidity, average rainfall, and the frequency of heavy rainstorms in many places—but contributes to drought in others.

Prognosis

The South Caucasus has experienced a significant increase in extremely high temperatures, heavy precipitation levels, and agricultural and ecological droughts, with the latter threatening hydroelectric power plants.[74] By the end of the 21st century, droughts of a magnitude rarely seen in West Asia (occurring once in 100 years) are projected to become 5 to 10 times more common under the same warming scenarios.[75]

Although Georgia is rich in freshwater, these resources are unevenly distributed (heavily concentrated in western regions), and issues in the water supply system mean that people in rural areas rely on wells and boreholes for their water. This increases their vulnerability to potential reductions in groundwater and drought periods. Rivers that are fed by glaciers and snow, such as the Khrami-Debed, Liakhvi or Alazani, are projected to see reduced flow levels of between 30% and 55% by the end of the 21st century, posing a threat to an essential source of water supply. This issue is projected to be more severe in spring and summer, driving significant shifts in regional hydrological regimes.

[73] https://www.floodmanagement.info/what-are-the-negative-social-impacts-of-flooding/
[74] https://www.mei.edu/publications/climate-change-georgia
[75] https://www.adb.org/sites/default/files/publication/707481/climate-risk-country-profile-georgia.pdf

The negative impact of this reduction in river flow could be exacerbated by increases in average temperatures and heat wave probability, leading to higher agricultural demand for river-fed irrigation.[76]

Impact
Droughts are not a new phenomenon in Georgia. A severe drought in 2000 caused wheat yields to drop by more than half, damaging sunflower crops and winter pasturelands. Other grains and potato crops were also negatively affected.[77] The 2000 drought in Kakheti and Kvemo-Kartli regions affected 696,000 people and caused an economic loss of 200 million USD.

Although Georgia has achieved significant self-sufficiency in many food groups, the country remains heavily dependent on imports for staple cereals, with 80%–90% of wheat consumed in Georgia imported.

The level of productivity in the Georgian agriculture sector is low compared to its neighbours in the Caucasus and other developing countries. Although the Georgia government has prioritised agricultural development in recent years, the adverse effects of climate change on crop yields could make it more challenging to improve agricultural productivity. Projected decreases in river flow during summer months may also affect irrigated agriculture, including along the Khrami-Debeda, Liakhvi and Alazani rivers, where water is mainly used for irrigation. In these contexts, pressure on agricultural infrastructure and its effective management will grow.[78]

The drought recurrence probability is high enough in Georgia – in some regions, it reaches 40%. Droughts occur most notably in the Kakheti, Shida Kartli and Imereti regions. The drought cycle for Georgia has recently changed from 15-20 years to 6 years. Over the period 1995 to 2009, droughts inflicted on agriculture reported an economic loss of 400 million GEL.[79]

NWRM

Natural Water Retention Measures (NWRM) are multi-functional measures that aim to protect and manage water resources and address water-related challenges such as flash floods and droughts by restoring or maintaining ecosystems as well as natural features and characteristics of water bodies using natural means and processes. Their primary focus is to enhance and preserve the water retention capacity of aquifers, soil, and ecosystems to improve their status.

NWRM can provide multiple benefits, including reducing the risk of floods and droughts, water quality improvement, groundwater recharge and habitat improvement. The

[76] https://www.adb.org/sites/default/files/publication/707481/climate-risk-country-profile-georgia.pdf
[77] https://reliefweb.int/report/georgia/special-update-2000-drought-georgia-27-jul-2001
[78] https://www.adb.org/sites/default/files/publication/707481/climate-risk-country-profile-georgia.pdf
[79] https://www.adb.org/sites/default/files/publication/707481/climate-risk-country-profile-georgia.pdf

application of NWRM supports green infrastructure, improves or preserves the quantitative status of surface water and groundwater bodies and can positively affect the chemical and ecological status of water bodies by restoring or enhancing the natural functioning of ecosystems and the services they provide (see ecosystem services). The preserved or restored ecosystems can contribute both to climate change adaptation and mitigation.[80]

NWRM and Flash Floods

The NWRM offers a great variety of tools to prevent and facilitate the negative impacts of flash floods. Basis and ponds, floodplain restoration, re-meandering and elimination of riverbank protection are considered to be among the most effective ones.[81]

Basis and ponds

Detention basins are surface storage basins or facilities that provide flow control by attenuating stormwater runoff. They also facilitate some settling of particulate pollutants.

Detention basins are generally dry, and the land may also function as a recreational facility in certain situations. However, basins can also be mixed, including both a permanently wet area for wildlife or treatment of the runoff and an area that is usually dry to cater for flood attenuation.
Basins tend to be found towards the end of the Sustainable drainage management train, so they are used if extended treatment of the runoff is required or if they are required for wildlife or landscape reasons.[82]

Floodplain restoration

River and floodplain rehabilitation and restoration embraces a great variety of measures, having in common the emphasis on the natural functions of rivers, which may have been lost or degraded by human interventions. Many European rivers have been significantly modified in the past decades to serve only a few dominant functions (e.g. navigation).

River and floodplain restoration is done to mitigate the adverse effects of human modifications, which not only produces benefits for the ecological functioning of the river but also for human society, as in the case of flood risk reduction, water quality improvement and groundwater recharge.[83]

Re-meandering

River re-meandering consists of creating a new meandering course or reconnecting cut-off meanders, slowing down the river flow. Similarly to floodplain restoration, it is often

[80] http://nwrm.eu/
[81] http://nwrm.eu/
[82] https://www.susdrain.org/delivering-suds/using-suds/suds-components/retention_and_detention/Detention_basins.html
[83] https://climate-adapt.eea.europa.eu/en/metadata/adaptation-options/rehabilitation-and-restoration-of-rivers

a reverse process, implemented where rivers have been straightened by cutting off meanders in the past.
The new form of the river channel creates new flow conditions and often also positively impacts sedimentation and biodiversity. The newly created or reconnected meanders also provide habitats for a wide range of aquatic and land species of plants and animals.[84]

Elimination of riverbank protection
A riverbank protection is an inert or living construction providing bank fixation but also an obstacle for the lateral connection of the river. Eliminating it consists of removing some parts of the bank protection, especially the inert one, to enhance lateral connections of the river, diversify flows (depth, substrate, and speed) and habitats, and cap floods in the mainstream. This measure is appropriate and very efficient in impounded large gravel riverbeds where gravel bars are drowned, and shallow low-velocity habitats are virtually absent.[85]

Other practical tools include wetland restoration, stream bed re-naturalisation, restoration and reconnection of seasonal streams, reconnection of oxbow lakes, river bet material re-naturalisation, natural bank stabilisation, lake restoration and re-naturalisation of polder areas.

Wetland restoration:
Wetland restoration manipulates a former or degraded wetland's physical, chemical, or biological characteristics to return its natural functions. Wetlands can play a role in reducing the frequency and intensity of floods by acting as natural buffers, soaking up and storing a significant amount of floodwater.[86]

Stream bed re-naturalisation
Streambed (or riverbed) represents the river's floor, including each riverbank. In the past, riverbeds were artificially reconstructed with concrete or big stones, modifying flows and decreasing fauna habitat and vegetation diversity. The re-naturalisation of river beds and banks could greatly impact the erosion process. Stabilisation techniques are among the main measures to be implemented. The maximum impact is reached when the stabilisation technique restores the vegetation cover and the naturalness of the banks.[87]

Restoration and reconnection of seasonal streams
Seasonal streams, or intermittent rivers, are rivers where surface water ceases to flow at some point in space and time. Seasonal streams provide essential ecosystem services to society, including flood control and irrigation. The abundance and distribution of seasonal streams and their natural intermittent flow regimes are being altered by climate change, water abstraction and inter-basin transfers. Restoring and reconnecting seasonal streams with the river consists, therefore, favouring the overall functioning of the river by

[84] http://nwrm.eu/index.php/measure/re-meandering
[85] http://nwrm.eu/index.php/measure/elimination-riverbank-protection
[86] https://www.epa.gov/wetlands/basic-information-about-wetland-restoration-and-protection#:~:text=Wetland%20restoration%20is%20the%20manipulation,rebuilding%20a%20former%20wetland%3B%20and
[87] http://nwrm.eu/index.php/measure/stream-bed-re-naturalization

restoring lateral connectivity, diversifying flows and ensuring the proper functioning of these seasonal streams for better water retention during floods.[88]

Reconnection of oxbow lakes
An oxbow wetland is a meander of a stream, river or creek that has become separated from the water flow. Oxbow wetlands store excess water that might otherwise lead to flooding, filter water to improve water quality and provide habitat to a variety of wildlife.[89]

River bet material re-naturalisation
Riverbed material represents the sediment eroded upstream, transported by the river and deposited on the river floor. Its re-naturalisation consists of recovering the nature-like structure and composition of the bed load, particularly the equilibrium between coarse and fine sediment. The main objective is to control erosion on slopes and riverbanks, providing this type of sediment.[90]

Natural bank stabilisation
The riverbank represents both natural and artificial terrain following the river flow. In the past, many artificial banks were built with concrete or other types of retention walls, limiting rivers' natural movements and leading to river degradation, increased water flow, erosion, and decreased biodiversity. River bank re-naturalisation consists of recovering its ecological components, thus reversing such damages and especially allowing the bank to be stabilised, as well as rivers to move more freely.[91]

Lake restoration
A lake naturally serves as a water retention facility. It can store water for flood control and provide water for many purposes, such as water supply, irrigation, fisheries or tourism. Lake restoration almost always includes removing sediment to increase the lake's volume. This means the lake can absorb more runoff and stormwater from the surrounding area before overflowing its banks and becoming a flood risk itself.[92]

Re-naturalisation of polder areas
A polder is a low-lying tract of land enclosed by embankments (barriers) known as dikes. It forms an artificial hydrological entity, meaning it has no connection with outside water other than through manually operated devices. Its re-naturalisation consists of enhancing polders with sub-natural characteristics, allowing better water storage in watercourses inside the polder, as well as increased biodiversity.[93]

[88] http://nwrm.eu/index.php/measure/restoration-and-reconnection-seasonal-streams
[89] https://www.nature.org/en-us/about-us/where-we-work/united-states/iowa/stories-in-iowa/what-is-an-oxbow/
[90] http://nwrm.eu/index.php/measure/riverbed-material-renaturalization
[91] http://nwrm.eu/index.php/measure/natural-bank-stabilisation
[92] https://www.btlliners.com/how-lake-restoration-can-reduce-flooding-risks
[93] http://nwrm.eu/index.php/measure/re-naturalisation-polder-areas

Target communities

Specific impacts of conflict

The specificity of the target communities from the point of view of NWRM instruments is the ABL - dividing line, which was created only after the construction of a sophisticated and complex water-management infrastructure in the region and separated river basins from headwater streams.
The most striking and immediate problem hitting the region following the 2008 war was the "water embargo" imposed by South Ossetian *de facto* authorities. A highly sophisticated and integrated irrigation and drinking water system was constructed in target regions during the Communist era. It allowed the cultivation of new lands in the area and, thus, a significant increase in production and population. These improvements have been crippled since August 2008, when the *de facto* South Ossetian authorities closed the flow of water to the Georgian side of the ABL.[94]

The basis of the system of irrigation canals in the region was the Zoncar reservoir, located on the territory controlled by the *de facto* South Ossetian authorities. From the reservoir with a volume of 40,000,000 cubic meters, water subsequently supplied Zoncar and the Terepuni canals by self-flow.

The Zoncar canal, with a length of 51 kilometres, was supplying not only the municipalities on the Georgian side of the ABL but also the communities in the territory under the control of the *de facto* authorities of South Ossetia through several side canals.

The system in question traditionally supplied villages with irrigation water in the drier months, especially in July and August. The South Ossetian *de facto* authorities' closure of the water flow after the war in 2008 caused an artificial drought and severe damage to the local economy. In several villages, fruit orchards dried up and died after several years without irrigation.

Since then, the Georgian authorities have managed to build an alternative irrigation system with the help of water pumps and also agreed with the *de facto* South Ossetian authorities on the seasonal restoration of water supply from the Zoncar reservoir[95].

The drinking water supply system in the target communities was mostly similar in composition to that of irrigation water. An example can be the village of Vanati, which also found itself outside the control of the Georgian authorities after the war. Thanks to the drainage system, water was collected from the surrounding mountains in the village. The water was cleansed by chlorine and distributed to other settlements downstream, supplying approximately 15,000 people[96].

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[94]https://www.cacianalyst.org/publications/analytical-articles/item/13118-no-light-at-the-end-of-the-tunnel-obstacles-to-revival-in-the-georgian-ossetian-conflict-zone.html
[95] Baranec Tomáš Et al. Communities on the Administrative Boundary Line - Challenges and Opportunities, Mesa 10, 2022, https://www.strategicanalysis.sk/wp-content/uploads/2022/11/STUDY_-Communities-on-the-Administrative-Boundary-Line-.pdf
[96]Source: Fact-checking trip to target communities in Georgia, 13. 6. 2023

The situation was similar in most of the target communities on the ABL. Some stopped being supplied with drinking water immediately after the war in 2008, and others gradually, parallel to how the system degraded in the territory under the control of *de facto* South Ossetian authorities.

In recent years, climate change has not only accelerated the degradation of the given system but also made it obsolete. Therefore, it is essential to look for new solutions that will make the new drinking water supply system independent of the territories that are outside the control of Georgia but also able to mitigate the adverse effects of the combination of drought and torrential rains.

The Georgian authorities reacted relatively successfully by drilling boreholes with small water stations in individual villages.

Unlike the system of open reservoirs, the given system is autonomous, resistant to possible pressure from the de facto South Ossetian authorities and, in particular, less threatened by the effects of drought and sudden rainfalls[97].

However, for the new system to effectively withstand the challenges arising from climate change, it is necessary to implement more modern technologies in combination with NWRM.

Bozhami[98]

Bozhami is an ABL community in the Kaspi region of Georgia, home to approximately 150 families. The specificity of the given municipality is the fact that it shows the opposite dynamics than the majority of communities on the ABL. Its population did not decrease after the war in 2008 and the creation of ABL, but it increased. Not only did many locals return and reconstruct the old houses, but there were also cases of many newcomer families.

The village owes this trend to several factors: it did not lose its traditional pastures after the war, it has good access to electricity and natural gas, it has the advantages of the status of a so-called high-altitude settlement, and it is located in a relatively short distance from Tbilisi.

Thanks to the realities mentioned above, the village of Bozhami has the potential to contribute to the stabilisation of the population in the given section of the ABL. Although the trend of population departure from rural areas to cities is characteristic of the whole of Georgia, it is often comparatively more pronounced and critical in communities on the ABL.

[97] Source: Fact-checking trip to target communities in Georgia, 13. 6. 2023
[98] Source: Fact-checking trip to target communities in Georgia, 13. 6. 2023

However, further growth of this village is limited by insufficient access to drinking water. Its causes are twofold - the impact of climate change and lost access to territories under the control of South Ossetian *de facto* authorities. The village's drinking water source traditionally flowed from the other side of the ABL. A system of pipes brought it to the underground reservoir in the mountain near the village. From there, it was distributed to local households.

Moreover, the new trend of arid summer months with heavy torrential rains caused erosion and landslides, damaging the infrastructure in several places. The resulting damage could be relatively easily removed, but at the same time, some of the damaged sections are located in the territory controlled *de facto* by the authorities of South Ossetia. In addition, the stream began to dry up during the summer in recent years, so even the repaired infrastructure would not necessarily guarantee sufficient drinking water.

In response to the situation, the local authorities built a well in the village with the help of two deep boreholes. This project was able to mitigate the effects of the situation partially. Indeed, the technology used needs to be updated to meet the community's growing needs.

Chorchana[99]

Chorchana is a village located on the edge of the eponymous Chorchana forest. In recent years, the forest has become an epicentre of tensions between Georgia and the *de facto* leadership of South Ossetia. As a result, the community that traditionally lived from the riches of the Chorchana forest found itself on the border of a vast and ever-changing fear zone. Despite the wide array of obstacles, local residents show a high degree of resiliency and willingness to stay in the settlement. Relatively small improvements, such as a paved asphalt road, demonstrably led to the return of several local families.[100]

Out of many issues in this community, drinking and irrigating water is one of the biggest since none of them is provided centrally. Similarly, as in the case of Bozhami, in Chorchana as well, drinking water used to be provided from streams in the Chorchana forest. A system of drainage pipes, reservoirs and water clarifiers was used for this purpose. Similar processes as in Bozhami, including a combination of droughts and sudden rainfalls in the forested area, caused critical damage to the infrastructure mentioned above. Nevertheless, a significant part of this infrastructure is located too close to the ABL, with Russian border guards being very active in the area. This makes any effort to renovate and upgrade the existing infrastructure impossible.

As a result, the community needs reliable access to drinking water. A handful of wells provide drinking water. All requested villagers agreed that the lack of irrigation water is a significant obstacle to the development of the local economy. Moreover, the population

[99] Source: Fact-checking trip to target communities in Georgia, 13. 6. 2023
[100] https://www.strategicanalysis.sk/wp-content/uploads/2022/11/STUDY_-Communities-on-the-Administrative-Boundary-Line-.pdf

of Bozhami as well as Chorchana seasonally grows every summer by about 10-15 per cent. Given increase comes exactly at that time of the year, when the water level in wells is low due to hot weather, further deteriorating the situation.

Recommended interventions

Project: Boreholes according to European standards

Introduction:
Problems with drinking water in target communities are caused by two mutually independent factors – one general and one specific. The first general factor is the consequences of climate change and global warming, represented mainly by longer dry periods interrupted by sudden rainfall. The second specific factor is the consequences of the 2008 Russo-Georgian War. Due to the ABL, it is impossible to reconstruct damaged infrastructure, and open water sources are in danger of unnoticed contamination, either by sudden rainfalls or human activity.

Under these circumstances, boreholes, corresponding to European standards, present a solution to both Bozhami and Chorchana problems[101].

Technical characteristics:

Each project would consist of one borehole, the chlorination and a well pressure tower. Unlike the older boreholes in the ABL communities, based on Soviet technology, European-standard boreholes with a diameter of pipe columns are the same along the complete length of the borehole. In the case of the Soviet method, boreholes usually had two diameters – one wider and one narrower. The technology in question also uses Piezometric tubes. These enable to control of water levels and the proper operation of the well in a continuous mode, smoothly and efficiently, so that it is not necessary to remove the head of the well and implement certain manipulations in it.

Under the conditions of proper deployment of the well, the operational period of such a borehole is 70-80 years, which is 2-3 times longer than the operational period of a well built using non-European standard materials and construction methods.

Characteristics in the context of the ABL and sudden rainfalls:

Unlike older infrastructure, planned boreholes would be placed directly in target communities or their immediate vicinity. Their maintenance and repair would be possible without any security risks at any time as needed.

[101] Source: Communication with representatives of local self-government of Shida Kartli region during the fact checking trip to target communities in Georgia, 13. 6. 2023.

Using the diameter along the whole pipe enables the use of the maximum operational potential of the well. If the water level decreases in the borehole (for example, during periods of water scarcity and droughts), the installed pump can be sunk to the maximum depth of the well. This ensures smooth and continuous operation of the well during any season of the year.

The proposed technology also significantly reduces the risks from long periods of drought and possible contamination, either due to torrential rains or human activity. Only blank pipes will be installed in the first 30-40 meters of the borehole, and only after reaching 40 meters will the first filtered pipe be installed. This approach ensures the protection of the well from unwanted surface water. In this way, the well is also protected from the inflow of flood waters during natural events and torrential rains.

Beneficiaries:
The new borehole in Bozhami would give access to drinking water to 250 households. In Chorchana, 300 households would benefit from the project.

Project cost:
Depending on the technical realisation of the project, estimated at around 270 thousand EUR (for further, see Annex 1).

Additional measures

Effective use of various types of water

Another method that can help target communities on the ABL to mitigate problems linked to prolonged periods of drought and sudden flash floods is sustainable water management.

This can be achieved by calculating how much water, what kind and for what purposes target communities need. Regarding different water uses, communities can use different types of water to satisfy their needs.

Drinking water

Water used for drinking and cooking has to be of the purest quality. To rationalise its use, local authorities should be able to answer the following questions: How many people live in the community? How many private households are there? How many other consumers like public buildings are there? How much drinking water do they use on average each month? It is equally important to understand for what purposes and in what proportions is the drinking water being used (drinking, cooking, cleaning, washing, irrigation, etc.)? Can we use different types of water in some cases? If yes, how much drinking water could be saved?

Once responsible authorities know how much water is needed and for what purposes, the next step is to map where we can save good quality water (drinking water and rainwater) and how much we can save. Some functions like irrigation, and household usage such as for toilet tanks and for cleaning can be supplemented by other types of water, thus saving drinking water for drinking and cooking.

How can the individuals measure the water consumption? Gathering data from existing water clocks or establishing new water clocks in locations of strategic importance can be an excellent first step. The consumers can also collect the invoices with consumption data, or a questionnaire can be distributed. There is plenty of rainwater and greywater that can be collected and used in an intelligent way if the community has data on water consumption.

Irrigation water

Another type of water is greywater. It is wastewater from non-toilet plumbing systems such as hand basins, washing machines, showers and baths. When handled properly, greywater can be safely reused for many purposes, including irrigation. In order to do so, it has to be collected separately from black water (the wastewater from bathrooms and toilets that contains faecal matter and urine).

Having a separate pipeline for the greywater can support its separation; however, it should be collected somewhere on-site to use when needed. This method can be expensive as it would need preplanning and changing existing systems. Nevertheless, small, low-cost solutions like garden showers during summer and the greywater collection nearby can be used. This reservoir can be used to manually fill toilet containers when enough greywater is collected.

Water for irrigation could be supplied from collected rainwater or handled greywater. Estimating how much water is needed in general for one household for irrigation is essential. Collecting rainwater can support irrigation during the dry seasons. In the future, extreme weather conditions like heavy rains and long, hot, and dry seasons will likely increase due to climate change. Quantifying the need for irrigation water is the first step to see which water sources could be alternative supplies instead of drinking water.

Rainwater management

Horizontal barriers

Building horizontal barriers made of wood trucks can slow down the mudslides and the runoff. A terraced, cascaded structure can collect water at each step before continuing its journey. So, the vast amount of water originally coming from the upper parts will flood down in a delayed way more slowly. This gives more time for infiltration, and less water arrives in the communities. The cascades can be built with a controlling system where people can manually drain down the water when they think it is the best time. This infrastructure can be built out of wood trucks, so no materials are needed from elsewhere; it looks natural, and it can be cost-efficient. Some maintenance and cleaning are needed – this depends on the weather (can be 1-2 times/ 3 months or 1-2 times/year). The nearby

border can cause problems, so the community should decide where the first part of this infrastructure should be built without risk of confrontation.

Reinforced banks
The mudslides can be prevented by planting more giant trees with big roots. However, this approach can be quite complicated, expensive, and time-consuming. Another option supporting prevention is to put larger stones as a wall next to the stream into the valley. Therefore, an artificial wall keeps the soil intact. The same technology is used next to roads where cliffs risk collapsing - artificial walls and nets are planted to prevent the damage. However, this solution is also expensive and alters the natural area.

Rainwater drainage
In communities with many artificial, impermeable surfaces like concrete and buildings, the water goes anywhere it can, flooding the lower-level streets, the houses' cellars, and the sewer system. This water damages the infrastructure, which costs a lot to repair. Several solutions can prevent more significant damage:

Ditches: Digging rainwater ditches next to the pavement and channelling the water flow to a rainwater reservoir, keeping it out from the sewer system as long as possible and saving it for later.

Rain gardens: Rainwater can be drained into rain gardens or collected in underground cisterns, preventing the streets and households from the flood.

Barrels: Collecting water from the roofs into barrels and using it for irrigation if needed.

Insurance
A separate insurance option for properties connected to heavy rain damages should exist. The communities should map if there is an option to insure their properties for extreme weather conditions. What is the current policy? Is there any option to change it regarding the needs? It would be worthwhile to get in touch with the insurance companies, learn about the current rules and the changes/trends in damage reports typical of recent years, and negotiate with them for mutual benefits. This will not be easy since, at first glance, the interests of the residents/settlements and the insurance companies may appear opposite. Nevertheless, with the progress of climate change, the features and frequency of damage events are expected to change significantly, and a reassuring and suitable treatment for all parties is in the common interest. In addition, insurance companies may have instrumental data that can further refine the understanding of climate change trends.

Rainwater retention
There are many well-proven water retention and storage methods, the selection of which always follows after getting to know and analysing the local characteristics.

It is also essential to raise the awareness of the local people, which helps water retention activities on private properties. In the villages, the know-how about the economic treatment of water is probably still alive among the elders. It would be worthwhile to revive this knowledge, discuss it with experts and educate the younger residents or people

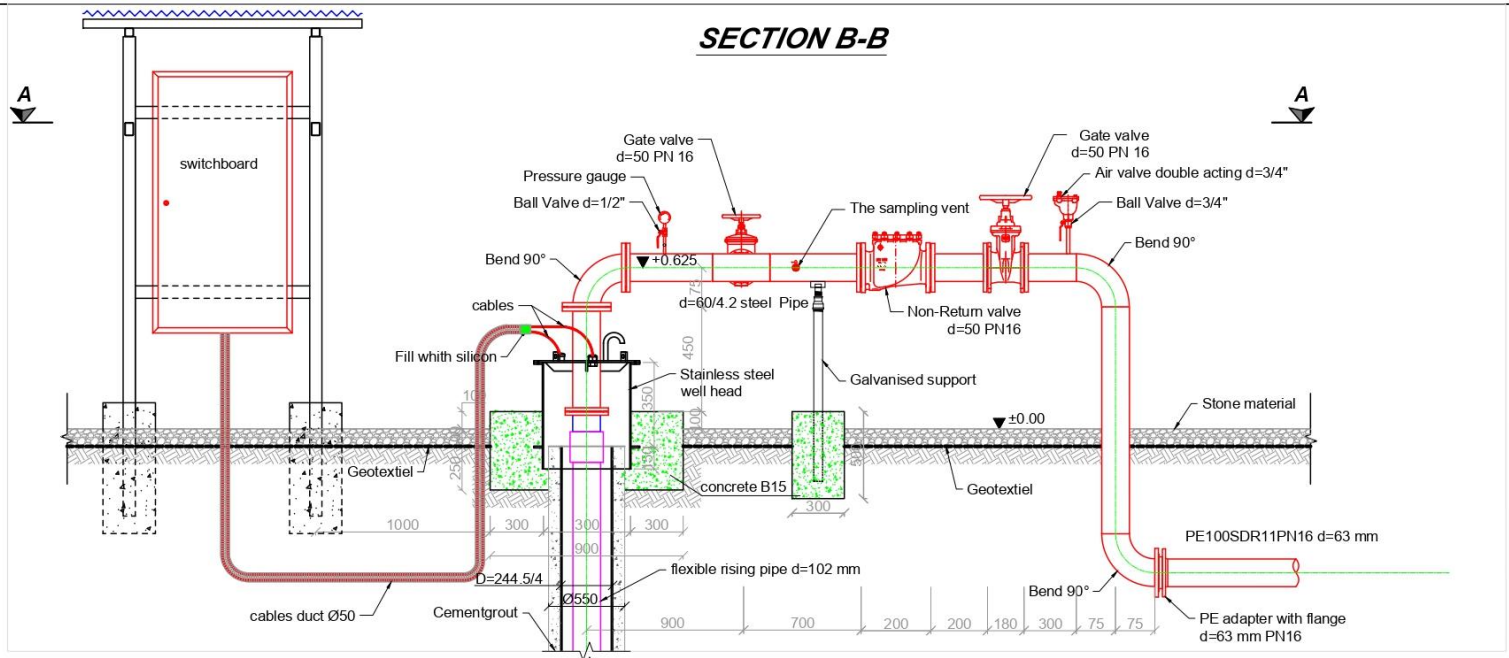
moving from the cities with the involvement of the local elderly. This can also have an excellent community-developing power.

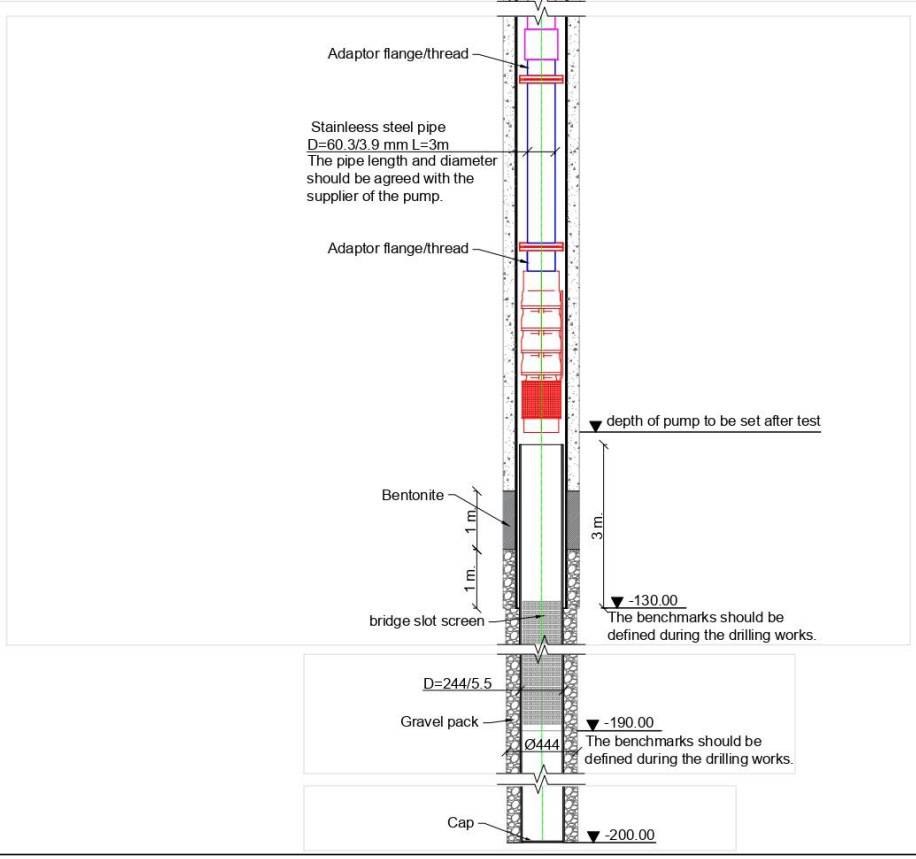
The benefit of individual solutions - rainwater collection from the roof, installation of smaller cisterns, graywater utilisation inside the house - can be its simple implementation and low budget. At the same time, these solutions are not efficient enough and cannot hold a large amount of water.

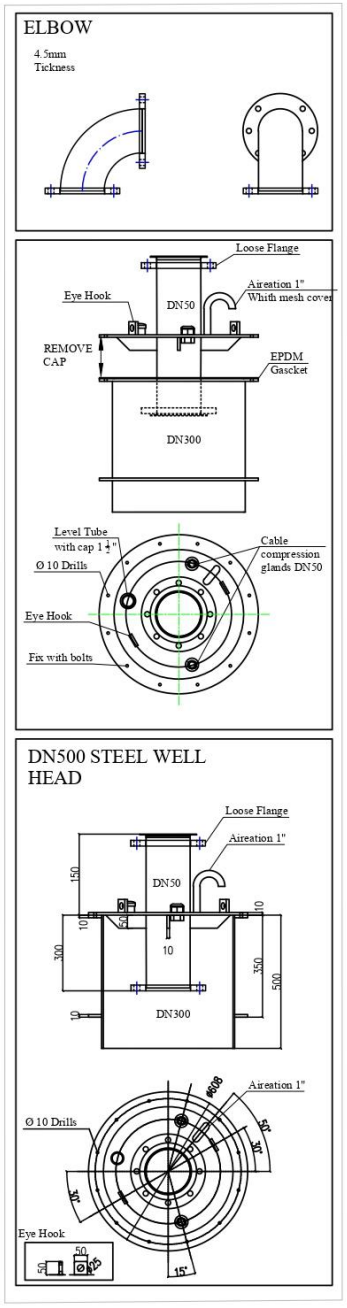
Community solutions are more effective but require much investment, so these must be carefully prepared. This can be done by supplementing the irrigation canals and water distribution systems that have worked well in most settlements for a long time with local reservoirs that can capture unused precipitation. Their placement and the fair community use of stored water require preparations, cooperation, and consensus in local regulation. The regulation of public areas and questions related to property relations can be a problem - solving them jointly and keeping the goal in mind can help prepare for climate change. At the same time, in the long term, it can satisfactorily handle the issue of slowing down and retaining rainfall and providing irrigation water during dry periods. A mixture of private and community solutions can mean a tangible and perceptible effect in the optimal case.

Annex 1

SECTION B-B







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BOQ - Production well - using german stainless steel installation materials and pump

Project Name: Water wells construction for Bojami and Chorchana

Project Summary: construction of 2 large-diameter, 200-meter-deep potable water production wells in Bojami village of Kaspi municipality and in Chorchana village of Khashuri municipality, Project also encompasses construction and arrangement of a pressure tower and a chlorinator at each location and arrangement of 900-1000-meter-long water main from well to pressure tower

Estimated period for project completion 60 days

Total Project cost including VAT	568,013.77	USD
Total Cost for one village including VAT	284,006.88	USD
Cost of the well	171,173.80	USD
Arrangement of 900-1000-meter-long water main from well to pressure tower	16,100.00	USD
2 X W=25 cubic meter aboveground tank	33,650.00	USD
Chlorination building with sodium hypochlorite	19,760.00	USD
VAT	43,323.08	USD

N°	ITEM	Unit	Qty	Unit Price	Total
				$	$
1.	**Mobilisation, demobilisation and accommodation**				
1.1	Mobilisation of drilling machinery complete with associated equipment, stores, transport and personnel to the drilling site.	lump sum	1.00	4,400.00	4,400.00
1.2	Dismounting and withdrawal of drilling rig and associated equipment from the drilling site at the end of the works and demobilisation.				
2.	**Drilling**				
2.1	Production Well drilling with a diameter of appr. 525 mm to 10 m depth for the permanent installation of a surface casing.	lump sum	1.00	59,300.00	59,300.00
2.2	Production Well drilling with a final diameter of appr. 394 mm from 10 m to appr. 200 m depth (depending on geology).				
3.	**Supply of materials**				
3.1	Supply of surface casing, mild steel, diameter 508 mm, 10 m long, wall thickness not less than 6 mm.	piece	10.00	87,823.80	87,823.80
3.2	Supply of well screens 12", stainless steel, diameter 219 mm, slot width appr. 1.0 mm, in lengths of 6 m (wall thickness 5 mm, individual screen length of each well depending on geology, smaller screen lengths to be kept available, slot width according to results of wet grading).	piece	80.00		
3.3	Supply of well casing 12", stainless steel, diameter 219 mm, in lengths of 6 m (wall thickness 5 mm, smaller casing lengths to be kept available).	piece	120.00		
3.4	Supply of centralisers	piece	100.00		
3.5	Supply of clay pellets for the drilling and the installation of a clay seal between casing and borehole wall; kf-value not more than 5E-11m/s; bulk density ~1.4 t/m³.	m³	8.00		
3.6	Supply of Sounding Pipe, Plain Tube, HD-PE 2"	m	15.00		
3.7	Supply of Sounding Pipe, Screen, HD-PE 2"	m	1.00		

3.8	Supply of filter gravel with not less than 96% SiO2; grain size 1.1 to 2.0 mm, well rounded, clean, free of organic contents; no crushed material; DIN 4924 or similar shall apply. Or similar gravel quality, available on national market after approval by Employer.	m^3	1.00		
3.9	Supply of stainless steel well head, 450 mm, wall thickness 6 mm, following DIN 4926, length 700 mm.	piece	1.00		
3.10	Supply of high performance and high-lift submersible pump, pump switch cabinet, special copper cable and automatic pump protection system including special cables	lump sum	1.00		
3.11	Cost of material packaging and transportation from Germany to Georgia	lump sum	1.00	7,800.00	7,800.00
4	**Installation of materials**				
4.1	Installation of all materials in Production Well including Sounding Pipe Plain Tube and Sounding Pipe Screen, as completion of work for well down to 200 m depth.	lump sum	1.00	2,750.00	2,750.00
5	**Well development and Well testing**				
5.1	Mounting and dismounting of a complete installation for well development by air lifting (dual pipe method). Compressor capacity min.7 bar.	lump sum	1.00	5,450.00	5,450.00
5.2	Cleaning of the well with compressor (dual pipe air lifting), at varying depths as indicated by the engineer, complete with labour, consumables, monitoring of discharge and cleaning of bail plug. Duration: 4 hours net air-lifting, or as indicated by the engineer. The water must be channelled away from the site not less than 150 m and as indicated by the engineer.				
5.3	Mounting and dismounting of a complete installation for well development with pump, generator, water meter. Pump capacity min. 100 l/s at approximately 50 m head.				
5.4	Mounting and dismounting of a complete installation for well development by air lifting (dual pipe method). Compressor capacity min.7 bar.				
5.5	Cleaning of the well with compressor (dual pipe air lifting), at varying depths as indicated by the engineer, complete with labour, consumables, monitoring of discharge and cleaning of bail plug. Duration: 4 hours net air-lifting, or as indicated by the engineer. The water must be channelled away from the site not less than 150 m and as indicated by the engineer.				

5.6	Mounting and dismounting of a complete installation for well development with pump, generator, water meter. Pump capacity min. 100 l/s at approximately 50 m head.				
5.7	2 water samples to be taken from well: 2 hrs. after start and 2 hrs. before the end of the drawdown cycle. Water analyses as specified by the Engineer.				
6	**Reporting**				
6.1	Well file, containing location map, all logs, well design, pumping test data for all well sites.	lump sum	1.00	3,650.00	3,650.00
	Production well Sub-total net				**171,173.80**

Visegrad Fund

STRATEGIC ANALYSIS

Asociace sociálního zemědělství

mesaIO

HEGYVIDÉKI ÖNKORMÁNYZAT