

EFFECTIVENESS OF PARTICIPATORY APPROACHES IN SUSTAINABLE
RURAL DEVELOPMENT: ANALYZING CASE STUDIES IN UZBEKISTAN

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EFFECTIVENESS OF PARTICIPATORY APPROACHES IN SUSTAINABLE RURAL DEVELOPMENT: ANALYZING CASE STUDIES IN UZBEKISTAN

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ABSTRACT

Access to quality water is a constraint and a source of waterborne diseases among the rural population of Uzbekistan. To address the need for quality water the government cooperates with many international financial and development organizations to address this problem. “Enhancement of Living Standards in Fergana Valley” is a development program funded by European Union and implemented by UNDP seeking to build capacity in development planning and improvement of living standards by involving local communities in the implementation of development projects.

The focus of this study was to assess how projects that engage local community people in decisions about development fare. It assesses how capacity training and institutions contribute to success water projects, the most common problem prioritized by the majority of targeted communities served by this program.

Elinor Ostrom’s and Manzur Olson’s principles of collective action inform the development of a framework applied to the analysis of water projects implemented by the program in four communities. The purpose is to identify factors that contribute or

hinder the success of collective action, and the sustainability of the produced collective good. Using a multiple-embedded case study design, water development projects are studied in four communities located in four districts of Namangan region of Uzbekistan.

The success of collective action in these projects was determined by the perceived value of clean water among households, and by strength of incentives to get access to the clean drinking water. In addition to these, other factors identified included community involvement in the decision making processes, existing norms and customary institutions, local conditions (such as the existence of alternative water sources), and nature of leadership (engaging the group in decisions, and the training of the leaders). These were important for the initiation of the project and during the process of implementation in the target communities.

Institutions created by the project, such as the Water Committees, ensured the long-term sustainability of projects where collective action was essential. In the other two cases solutions to sustainability depended on existing organizations. The property rights of the collective good was not important during the initiation of the project, nor through the process of the collective action building the water system. However, property rights might be influential for the success and long-endurance of the created institutions (Water Committees). In addition, coercion was used in one start up case, because the group was not part of the decision to engage in the project, and did not value. The group was not aware of the poor quality of the water, which required additional training and group discussions for increasing awareness of people about waterborne diseases.

The findings of the study indicate that it is important to use a polycentric approach while designing intervention methods and approaches of development projects. In order to ensure sustainability of the outcome of the project, where a participatory approach is used, the difference between imposed and voluntary organized collective action has to be recognized. The incentives and involvement of the community in decision making processes can determine the success of the project and ensure long-endurance of the outcome.

Chapter 1: Introduction

1.1. Research Problem

Sustainable rural development, environmental protection, improvement of livelihoods and poverty reduction issues are becoming a vigorous and central focus of discussions among international development agencies and donors. This is due to growing concerns about efficiency and effectiveness of development assistance programs, and the impact of those programs on livelihoods of the poor in target areas (ADB 2004; Blunt, Turner, and Hertz 2011; Cartier-Bresson 2012; Rao 2004). The development programs, in general, can be described as “all social and economic programs in developing countries funded by multilateral and bilateral development agencies or by international non-government organizations” (Bamberger 2000, p. 96).

Every year donor governments and agencies spend billions of dollars for development assistance around the world. During the period of 2005-2010, the Development Assistance Committee (DAC) of The Organization for Economic Co-operation and Development (OECD) spent more than \$685 billion of USD for development aid. Just in 2010, DAC countries allocated about \$128.5 billion of USD for official development assistance (OECD 2013). Almost 40% of this amount was disbursed for social and administrative infrastructure and 15% for economic infrastructure. The assistance for development allocated by all donors and the private sector together exceeded \$509 billion of USD in 2010 (OECD 2013).

A survey on Monitoring the Paris Declaration (targets and principles agreed by donor countries for achieving more effective aid by 2010) revealed that despite considerable efforts and progress made towards targets, only one out of 13 targets established for 2010 has been met (OECD 2012). While UN MDG Report 2012, says that “for the first time since poverty trends began to be monitored, the number of people living in extreme poverty and poverty rates fell in every developing region—including in sub-Saharan Africa, where rates are highest” (UN 2012, p. 4), including improvements in gender education, healthcare and access to safe drinking water.

Due to raising concerns and critiques about sustainability, effectiveness and equity effects of aid programs, most donors are reconsidering their strategies and seeking new approaches for improvement of development programs and their impacts on target groups. One of the reasons of such failure, identified by international community, is the lack of involvement of people in development processes and programs (FAO 1991). During the World Conference on Agrarian Reform and Rural Development (WCARRD) in 1979, the concept of participatory development was recognized as an essential element in strategies for sustainable development of rural places (FAO 1991).

“While it is recognized that other factors relating to social, economic/financial and technical aspects do play an important role in achieving this objective, the active participation of rural people, including disadvantaged groups, acting through voluntary, self-reliant organizations of their own choice is equally important.

Without such participation, rural development initiatives are unlikely to be sustainable in the long run and rural inequities are unlikely to be redressed”.

(Plan of action for people’s participation in rural development. Twenty sixth session FAO conference. Rome, 9-28 November 1991)

The idea of participatory development had been widely discussed and promoted by donors and development agencies from 1960s to the early 1980s. By the mid-1980s, it started waning due to criticism for substitution of good governance, “top-down” and “tyranny of techniques” attitude (Cooke and Kothari 2001; Neef 2003), inability to handle conflicts (Leeuwis 2000) and lack of downward accountability and transparency (Vollan 2012). The interest for participatory community development started growing back in 1990s after “economists such as Sen and Ostrom made a vigorous case for a more bottom-up and deliberative vision of development that allows the “common sense” and “social capital” of communities to play a central part in decisions that affect them” (Mansuri and Rao 2012, p. 3).

Involvement of communities in the decision making process, and use of participatory approaches can be observed in most of the development projects implemented by international agencies like UNDP, Worldbank, ADB, Winrock International, Mercy Corps, ACTED and others, operated or still presently operating in Uzbekistan. However, the participatory approach, tested and proved as successful in other countries, and even within the country sometimes does not yield the expected results, thus leading to weak results and even failures of some community projects (ADB 2004; Mansuri and Rao 2012, 2004; Meinzen-Dick, DiGregorio, and McCarthy 2004).

UNDP, as many other international development agencies working in Uzbekistan, has programs and projects that focus on rural socio-economic development, environmental protection, improvement of livelihoods and capacity building of the local population and authorities. UNDP works both at the policy making and grassroots levels. In most of its projects working at the grassroots, it applies a participatory approach that involves local people in implementation of community development projects in the regions.

The Area-Based Development (ABD) programs implemented by UNDP in some developing countries like Bosnia & Herzegovina, Ukraine, Uzbekistan and Tajikistan are one of those examples. The ABD program approach can be defined as “targeting specific geographical areas in a country, characterized by a particular complex development problem, through an integrated, inclusive, participatory and flexible approach” (Harfst 2006b, p. 9).

This research will explore whether participatory approaches used in community development projects of Area-Based Development program in Uzbekistan lead to and ensure sustainability of the results and sustainable development of rural areas. Due to broadness and specifics of the research area, the study will focus only on common-pool resource (CPR) projects implemented by ABD program. Particularly, it will review community projects that addressed social infrastructure rehabilitation issues like scarcity and supply of the water within the community.

The water issue and problems related to clean drinking water supply are scaling up during last years in Uzbekistan. According to the UNICEF 2010 Annual Report for

Uzbekistan, although the share of population with access to clean drinking water has increased to 82.5%, the coverage and distribution is still uneven: 67% of population in the Southern regions have access to clean drinking water while in the capital it is almost 100%. The same analogue can be observed while comparing access of people to clean drinking water in rural and urban areas, almost 30% of rural population does not have access to the safe drinking water. According to the assessment of public healthcare in Uzbekistan conducted by the Center for Development Research (ZEF), the common type of infectious diseases are water-related and “between 2003 and 2006, the level of acute intestinal diseases increased from 129.1 per 1000 population to 144.6 per 1000 population” (ZEF 2011, p. 5). Therefore, the majority of rural communities usually prioritize and address drinking water supply problems first while implementing community development projects.

1.2. Justification

The recent critical studies and analyses conducted by World Bank (Mansuri and Rao 2012) and ADB (ADB 2004) show that not all projects where participatory approaches had been used were successful and impact of outcomes on target groups were positives and sustainable. Mansuri and Rao (2012) argue that development programs can be improved by designing participatory projects with focus on local context, being adaptive and flexible, open to the possibility of failure and learn from failure, recognize longevity of the process and ensure state commitments to civic participation.

The international development agencies during their work at the grassroots usually apply participatory approaches when they face and deal with issues related to creation and/or maintaining the common pool resources and public goods while working with communities in rural areas. The outcomes of those interventions may vary from project to project, and even when the same project is implemented in different regions. There might be divergences, even though the same approach was applied by the agency in all target areas.

This study will address the problem of sustainability of development programs' outputs and outcomes of common pool resource projects. It will examine the participatory approach used by the development agency to determine reasons that affect success or failure of community mobilization approach used by the agency while implementing CPR projects. The analysis of this study will be done based on examination of community infrastructure rehabilitation projects in Uzbekistan, where the participatory approach had been used by the program for building or maintaining CPRs within the community.

This study will identify indicators of success and failure of common pool resource institutions and apply them in the analysis of case studies. Therefore, the goal of this study will be threefold: a) to identify the indicators that are appropriate for development agencies to measure sustainability of CPRs, b) examine how these indicators impact on sustainability and success of participatory approach used by community development practitioners in different cultural contexts, and c) identify what other factors are found to be key in the sustainability of projects to provide

recommendations for improvement of community driven development assistance in regards to the creation of CPR systems and ensuring their long lasting sustainability using participatory approaches.

1.3. Objectives

This study aims to outline specifically whether Ostrom's design principles and other theories and concepts of public goods and CPRs are relevant to making community development projects sustainable and what kind of solutions does the work suggest in different cultural contexts. The review will be done based on observations of projects implemented by an international development agency in Uzbekistan using a set of indicators informed by the literature, including the design principles for CPR institutions.

Main objective: Determine variables and factors influencing success of participatory approach and sustainability of CPRs in community development projects.

Objective 1: Review the literature to identify indicators for assessment and analysis of CPRs institutions and projects.

Objective 2: Review and analysis of case studies and participatory approach used by the development agency in community development projects in Uzbekistan.

Objective 3: Compare the variables and results of the case studies to draw lessons about the principles for robust CPR institutions specific to this type of CPRs.

1.4. Outline of the Thesis

Chapter II provides the historical, economic and geographical context of the study, including government and communities structures that will help to understand local context of rural areas, where the program implemented its projects. Chapter III reviews the literature on collective action in order to identify indicators that influence the success of collective action and sustainability of the outcome. Chapter IV describes the conceptual framework, indicators and case studies research design that are used in this research. Chapter V begins by providing information about development program implemented in Uzbekistan, which will help to understand the nature of the program and process of implementation of community projects. Chapter VI presents and analyzes community projects, where CPR systems were built using a participatory approach. The last part of this chapter provides an analysis across the case studies. Chapter VII provides conclusions of the study, along with recommendations and limitations of this study.

Chapter 2:

Uzbekistan: Historic, Cultural and Regional Context

2.1. Geographical and Demographic Outline

Uzbekistan is one of the five countries located in Central Asia. It is one of the two doubly land locked countries in the world, stretching 1500 km west-to-east and 1000 km north-to-south, and bordering with Kazakhstan in the north and west, Kyrgyzstan and Tajikistan in the east, and Afghanistan and Turkmenistan in the south. The capital of the country is Tashkent city with population more than 2 million people. The country consists of 12 provinces (Oblasts) and the Autonomous Republic of Karakalpakstan. The total area of the country is around 447,000 km² with approximately 60% comprised of desert or semi-desert area and only 10% is irrigated area, which is used for production of agricultural crops. Due to the low annual precipitation rate (100-300 mm/a), most of



the agricultural area is irrigated by water from two major rivers crossing the country: Amu Darya and Syr Darya (Ibragimov et al. 2007).

The climate in Uzbekistan is continental and relatively dry, characterized by long hot summers and mild winters. The agricultural production is predominantly based on irrigation, which is a major factor limiting agricultural production in the country. Due to favorable conditions the crop production is mainly concentrated in the eastern part, i.e. in the Ferghana Valley, and the north of the country. The country has significant reserves of natural resources including large deposits of gold, copper, lead, zinc, uranium, natural gas and oil.

Uzbekistan has the largest population of the five Central Asian Republics, approximately 29.5 million people in 2012, which is nearly half the region's total population. The majority of the total population is Uzbek (about 77-78%), with the remainder being Russians, Tajiks, Kazakhs, Karakalpaks and Tatars (United Nations Development Programme in Uzbekistan). Approximately 37% of the population lives in urban areas and rest 63% lives in rural areas (UNDP in Uzbekistan).

2.2. National Economy

The agricultural sector plays a significant role in the Uzbek economy. The country is one of the biggest cotton producers in the world, with cotton being one of its primary export earners. In 2012, Uzbekistan was the world's sixth-largest producer and fifth-largest exporter of cotton (National Cotton Council of America). The second largest crop produced in Uzbekistan after cotton, is wheat. Besides, the country produces significant

amount of raw silk, fruits and vegetables, melons and grapes, substantial amount of which are exported primarily to Russia and other neighboring countries.

Due to favorable conditions for agricultural production in the Fergana Valley, eastern part of the country, it has the highest density of population in Central Asia. The Ferghana Valley produces a significant proportion of agricultural products in the country. Although, Kashkadarya and Surhandarys regions in the South are also known as agricultural regions, their share is much less than the share of the Ferghana Valley in agricultural production. The western part of the country is mainly industrial, which includes chemical, mining, gas, oil refinery and other industries. It is also has a good developed tourism sector, due to historic cities like Samarkand and Bukhara. The North-West part of the country, the Republic of Karakalpakstan where fishery and other industries were developed in the past, currently is negatively affected and suffering from the Aral Sea disaster.

The economy of Uzbekistan declined during the first years of independence and recovered after 1995. The average economic growth was about 4% per year from 1998 to 2003, with a greater growth of GDP around 7%–8% per year thereafter. It is projected that the growth rate of GDP will remain around 7-8% during the next few years, due to net exports and large capital investment programs. According to the World Bank statistics, in 2011 Uzbekistan's annual GDP growth was 8.3% with total GDP equal to USD 45.4 billion and GNI per capita (PPP) was equal to USD 3,420. The impact of the recent world crisis, in terms of increases in global food and energy prices, had limited effect on the economy of the country, due to Uzbekistan's policy of self-sufficiency in

both food grains and energy, and relative isolation from global financial markets (World Bank in Uzbekistan).

Since independence, the government of Uzbekistan keeps Soviet-style command economy and protectionist economic policies, including a tight control over the currency convertibility, production and prices. Although the government takes measures to improve the investment climate, these actions usually increase rather than decrease its control over business decisions. Therefore, the distinct increase in the inequality of income distribution can be observed among different levels of the society (US Central Intelligence Agency). Disparities between regions and rural-urban areas have become more apparent, with the strongest indicator of vulnerability to poverty being the region of residence. Especially, the issue of vulnerability is acute in rural areas, where approximately 35% of the population is likely to be poor (United Nations Development Programme in Uzbekistan).

According to the World Bank Groups' (WBG) Doing Business report for 2012, Uzbekistan's Doing Business index holds 166 rank (lowest rank is 183), due to various unfavorable conditions for doing business in the country. Thus, the average company operating in Uzbekistan has to pay approximately 97.5% of its profit as various taxes and contributions required by the legislation, which puts the country on 157 ranking in Paying Taxes index. Trading norms and payments, as well as time required for documents' processing puts the country on 183 ranking in DB index for Trading across borders (WBG 2011).

2.3. Government and Community Structure

Uzbekistan is a presidential country, where the President of Uzbekistan is both: head of state and head of government. It has a two chamber parliament: the legislative chamber and senate. The system of the government is based on the principle of separation of powers between the legislative, executive and judicial. The executive power is executed by the government and legislated power is vested in both: government and parliament (Central Intelligence Agency of the U.S.). According to the constitution of the Republic of Uzbekistan, Uzbekistan is a sovereign democratic country. The government has a hierarchical structure, which consists from central, regional (province) and district (county) levels of the government.

Representative bodies on regional and district levels are the Councils of People's Deputies, led by Hokims (Mayor). The term of office of the Councils of People's Deputies elected by the people is five years. The Hokim is an executive power of the government in a particular region. The Hokims of the regions (provinces) and Tashkent city are appointed and dismissed by the President and approved by the relevant councils of people's deputies. Hokims of the districts and cities are appointed and dismissed by the Hokim of the particular region and approved by the relevant Council of People's Deputies. Self-governing bodies in towns, villages and communities are Mahalla Citizens Councils, with elected chairman and his advisers for 2.5 years. The Chairman of Mahalla Citizens Council is elected in consultation with the relevant Hokim of the district or city, and advisers - by proposition of the Chairman (Abidjanova, Tadjibaeva, and Akhadjonov 2007).

The community, i.e. mahalla, is a traditional structure, which represents a neighborly-territorial community, the history of which goes back to ancient times. Initially, communities were based on family and tribal settlements, which are in the process of historical changes transformed into the socio-territorial institutions. The institution of the neighborhood community traditionally had a number of specific features for the Eastern society - democracy, paternalism (respect for authority and charitable attitude towards the people), collectivism in all spheres of life, succession, respect for elders, care for the future generation, value of the family systems. Later, with the development of cities, mahallas became as residential areas where people are connected by traditional and very stable norms of coexistence and collective mutual assistance (Abidjanova, Tadjibaeva, and Akhadjonov 2007).

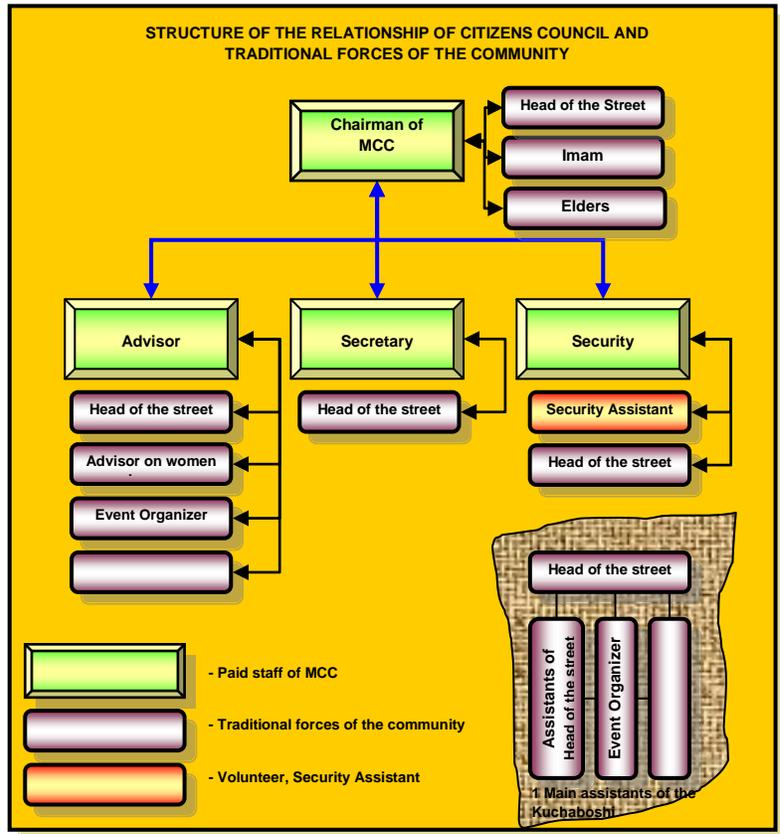
The modern mahalla – is a block of the town or village with a population, which is tied with norms of living and collective mutual help. At the same time, this structure is a form of peculiar self-governing body of the local government, due to historically being involved and assistance in solving some of social problems of people living in the community. The social center of the mahalla is considered a choyhona (teahouse) or mosque, i.e. the place where usually men get gathered. The leader of the mahalla usually elected from the most experienced and respectable men of the mahalla, who can help in organizing events and ceremonies. Also, the leader of mahalla serves as a peacemaker and arbitrator, especially in issues related to family preservation and keeping a peace among people (Abidjanova, Tadjibaeva, and Akhadjonov 2007).

With the independence of Uzbekistan, the mahalla besides of performing the functions of control and organizing traditional ceremonies also acquired some new social functions. The status of the mahalla was secured by law, legislation and various related decrees. These citizens' self-governing bodies (Mahalla Citizens Council) have the rights of a legal entity; have a seal and get registered in respective local government institutions. The Mahalla Citizens Council (MCC) has a right to represent interests of the people and take decisions on behalf of them. The new status of MCC has expanded its responsibilities and requires more efforts and time for performing all duties imposed on the organization. Therefore, the paid positions (from the state budget) like a Chairman, secretary, volunteer-guardian, and advisor on religious and moral education were created within MCC (The Law of the Republic of Uzbekistan "On citizens self-governing organization", Article 16, 22).

The modern Mahalla Citizens Council is versatile in its operations. The administration of MCC is responsible for organizing activities related to building social and residential buildings, landscaping of the community, conducting khashars, weddings, funerals, improving public security and discipline. Initially, activities of MCCs were carried out by two people: chairman and executive secretary. Today, in order to ensure efficiency of activities of self-governing organizations, their functions have been diversified to enhance involvement of people in socio-political processes happening in the country, including active involvement of women in activities of MCCs. In order to perform these activities new positions (see Figure 1) of the posbon, advisors on religious

and moral education, and family issues were created within MCCs (Abidjanova, Tadjibaeva, and Akhadjonov 2007).

Figure 1. Structure of the relationship of Citizens Council and community members



Source: Abidjanova, Dildora, Adila Tadjibaeva, and Ikboljon Akhadjonov (2007), “The Role and Potential of Modern Mahalla and Civil Society Organizations in Ferghana Region”, UNDP, p. 20

Traditionally, every community usually has a certain group of people who holds informal positions and responsible for specific activities. In some communities all or part of the following positions may exist: Kuchaboshi (leader of the community), Imam, Elders, Otin-oyi, Assistants of the Leader and the Advisor on religious and moral education issues, Dasturhonchi (Abidjanova, Tadjibaeva, and Akhadjonov 2007).

Kuchaboshi (Head of the street) – community activist, who is elected by the residents of one or more streets and protects their interests. This status is equal to the

status of the Chairman of MCC. Therefore, the chairman usually relies on this leader in most of his work and activities.

Imam - is a religious mentor, who leads generally prayers in the mosque, if the community has it. He is also one of the integral figures during the funeral and wedding ceremonies. He usually has a high reputation among the population and helps to mobilize people in solving common problems.

Elders - are community respected elderly people, whose views are always taken into account by the residents of the community. Before starting any initiative MCC leaders and residents usually seek advice and blessing from the elders.

Otin-oyi (Advisor on women issues) – is a spiritual leader of women of the community, with deep religious knowledge. Usually, she is responsible for coordinating and working with women during the various events and ceremonies, including resolving of women's issues or problems in the families.

Dasturhonchi (Event Organizer)- one of the organizers of events like weddings, funerals and other ceremonies within the community. In general, none of these events happen without a dasturhonchi. Due to specifics of the culture, majority of the events as well as these positions are gender based: female dasturhonchi for women and male dasturhonchi for men activities. They usually provide services like coordination of guests, laying tables, and service management related issues during the events, which can public and private as well.

Posbon (Security) - responsible for the maintenance of public order and security of the people living in the community.

Sardor (Security Assistant)- Assistant of the posbona on a volunteer basis.

In addition, in 1992 by the Presidential Decree a Fund “Mahalla” was established to ensure public support for conservation of national historical and cultural values, promoting national customs and traditions, and the expansion of cultural and educational work among the communities of the country, and their further social and economic enhancement. Although, Mahalla Citizens Councils are independent community based organizations their interests represented and activities thus controlled by the Mahalla Fund. The Mahalla Fund has its branches on regional and district levels and closely works with central, regional and local authorities. During this study the names Mahalla Citizens Council and Mahalla Committee will be used interchangeably, because different stakeholders use different terms while referring to MCC.

2.4. Culture and Traditions

Customs and traditions in Uzbekistan have been formed for centuries. These traditions and customs have been remained without significant changes despite various invasions and attempts to change them by the conquerors. The major influence on local traditions and customs was done by Arabs, who brought and extended Islam throughout Central Asia. Islam traditions strongly settled and intertwined with local culture and lifestyle of the local population. These customs and traditions are carefully maintained and passed to the next generation.

Many events within community usually are related with major family celebrations like births and weddings. During these events all relatives and members of the community, including all friends are usually invited to celebrate these occasions together. Therefore, these types of events usually gather from several hundreds of people close to a thousand, depending of the status of the family and their networks. In addition to family related events, it is also common to celebrate some national holidays together with the whole community.

One of the centuries-old and widespread Uzbek traditions is hashar. Hashar is a collective public work commonly practiced by the MCC when there is a need for landscaping of the community. Historically, hashar was implemented by mobilizing community members and it was a form of mutual support among residents of the same community. People come together to help each other in building a new home, when labor force is needed for completion of the construction.

This experience of joint work has been widely used to address common public problems within the community, district, city, or region. There are historical examples of when significant scale projects were done using hashar. One of these examples is building the Great Ferghana Canal in 1939, when more than 180 thousand of people gathered and manually built the canal with a distance of 345 km in 45 days (Терентьев 1940).

Presently, MCC uses hashars not only for landscaping and greening the streets, but also for solving large infrastructure problems of the community like a constructing gas lines, drinking water, irrigation networks, power supply, and in some cases even

building public schools, mosques, small bridges, etc. Depending on the type of hashar an initiative group is being created, which is responsible for organization and management of the mobilization processes, financial, human and physical capitals. It has to be noted that due to low financial abilities of the majority of people in rural areas, it is much easier to perform hashar which requires cleaning ditches, drainage, landscaping of streets, but does not require collection of the significant amount of financial means. The population is during the hashar is also responsible for preparing lunches and dinners for volunteers if this is necessary. If a person due to some reasons cannot participate in this process, he or she can contribute some cash for purchasing necessary resources or buying food. The size of the monetary or voluntary contribution from each household is determined jointly during the general meeting and planning process of the hashar by the community members.

2.5. Area Based Development Programme

The Enhancement of Living Standards Programme (ELS) has been implemented in Namangan, Andijan and Fergana regions of Fergana Valley in Uzbekistan by the United Nations Development Programme (UNDP) and financed by the EU. It is a part and sister project of the Area Based Development Programme implemented by UNDP in Karakalpakstan, Kashkadarya and Tashkent regions of Uzbekistan. The goal of the program is to improve the living standards in target areas through three interrelated components: 1) Increase capacity of authorities for local development planning, 2) Increase the capacity of local communities in development processes and undertake

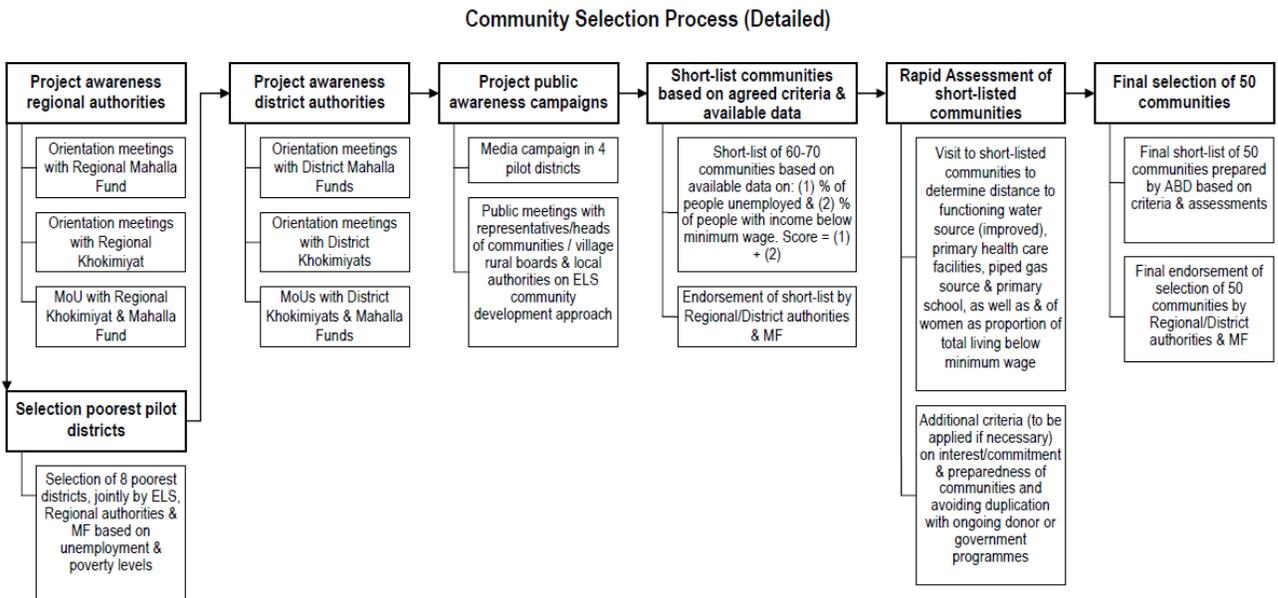
self-help initiatives to improve access to basic services and 3) Income generation and diversification. Through these components it aims to improve authorities' capabilities in regional planning, assists communities to resolve community infrastructure related problems in a collaborative approach, and enhance their income generation skills through the support of small business and agricultural production initiatives.

The EU funded ELS program has been implemented in Fergana Valley in a four phases starting in 2005 until end of 2011. The program has been launched first in Namangan region in 2005, where it worked in more than 200 communities during the entire period of implementation of the program. The selection of districts (Annex 1) and communities was done using criteria agreed and approved by EU and local government with focus on the poor and degree of importance of proposed problems, and following region > district (county) > community pattern. The program used two stages selection method for determining potential target communities: an initial screening stage using key criteria and secondary stage, using more detailed criteria. The key criteria used during the initial screening stage consisted of level of income and level of unemployment within the community. The secondary stage criteria included percentage of women, distance from water and gas supplying sources, as well as distance from primary school and healthcare facilities (Annex 2).

In each level of selection appropriate local stakeholders (local authorities, various departments, etc.) were involved in order to ensure relevance and feasibility of the proposed applications and problems identified by the community to main objectives of the program. In addition, local authorities and representatives of public services were

also involved in implementation of community projects, thus advised and extended support to community leaders and initiative groups, and even covered some costs in order to alleviate the burden of the communities in bigger projects. To ensure clear understanding of program’s objectives, the program held information meetings on regional, district and community levels (Figure 2).

Figure 2.



Source: Annex 2

The final stage of the selection process was identification of target communities among preselected communities. All preselected communities interested in working with ELS program provided application forms (Annex 3) with brief information about their communities and prioritized problems proposed to address together with the program. The program after reviewing and visiting those communities selected final target communities for program intervention.

After finalizing selection of target communities, the program conducted information meetings, group discussions, and various seminars and trainings for

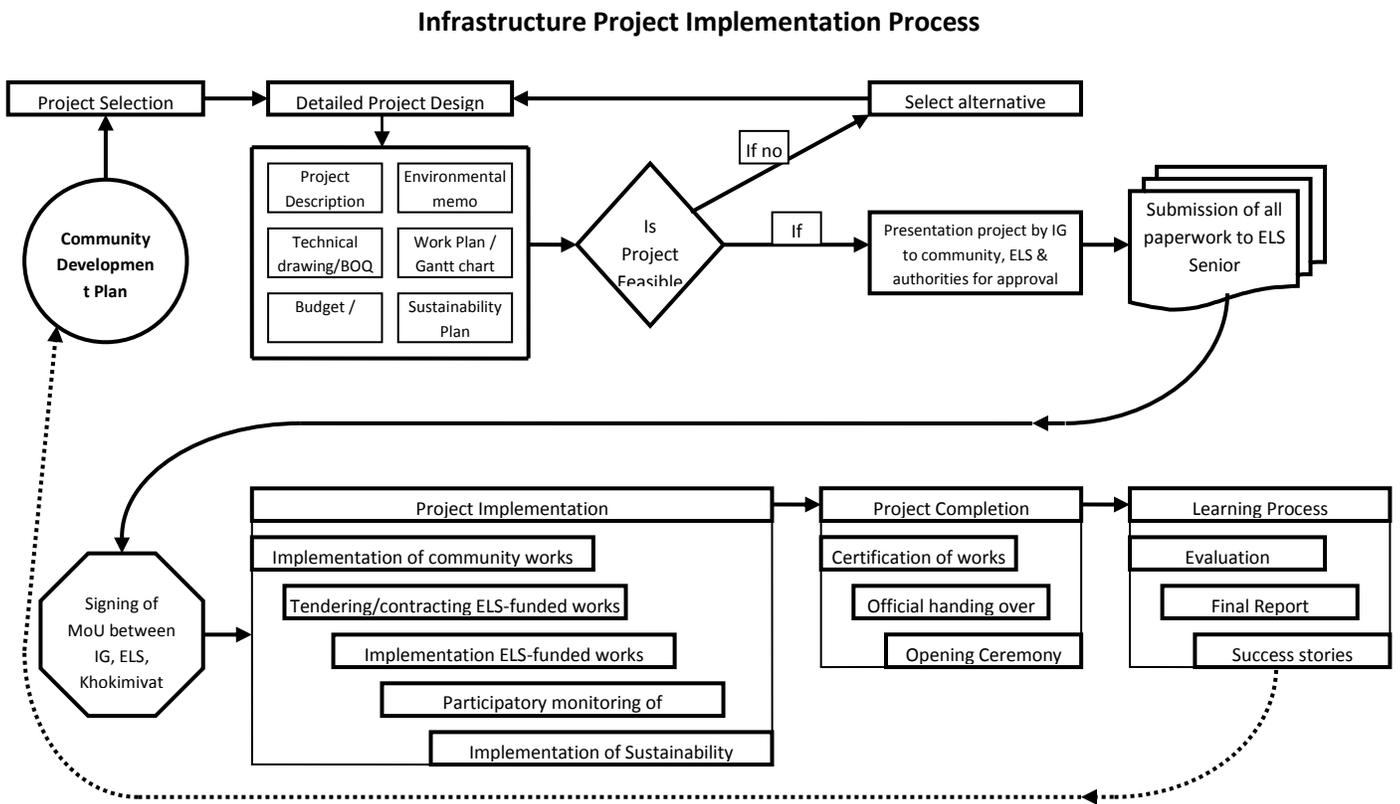
capacity building of the community. As a result of these activities, the initiative groups of 6-8 people consisting of community leaders, elders, respectable and active people were formed to ensure community and resource mobilization and collective action during the implementation process of the project (Annex 4). The objectives, requirements, duties and responsibilities, as well as election process of members of the initiative group were reflected in a formal document, a Charter of the initiative group (Annex 5). In every selected community the ELS program conducted trainings on community mobilization, planning and project design, fundraising, communication and conflict resolution, income generation and other topics for active people and the initiative group, in order to increase their knowledge and abilities to address socio-economic issues within the community (Full list of trainings in Annex 6).

The initiative groups were also responsible for elaboration of project documents to resolve a prioritized problem, and obtain financial and technical support from the program. Some community projects like water, gas or electricity supply require special permissions and specialized knowledge for elaboration of project documents. In these cases, communities usually use services of specialized institutions to develop project documents that meet state standards and requirements.

The timeframe and details of implementation of the community project were discussed and agreed among residents during the general meetings of the community. At these meetings the share of each household, both financial and in-kind contribution, was discussed and agreed based on ability of each household. Usually rural people have limited financial means; therefore, they prefer to contribute their labor, equipment and

skills. In-kind or financial contribution of the community was also one of the requirements of the program to build a sense of “ownership” of the project among its members. In order to guarantee community’s contribution the Makhala Committee had to provide a guarantee letter with a list of the community’s contribution to the program. This was necessary to launch project activities in the community (please see below a scheme of infrastructure project implementation process).

Figure 3.



Source: Annex 37

During the implementation of infrastructure rehabilitation projects in the communities, the ELS program used a participatory approach in addressing problems of communities. The primary goal was to teach people how to address and resolve their identified problems collectively, by applying skills and knowledge obtained through

various program's trainings during the implementation of community infrastructure rehabilitation projects. This is essential, especially in developing countries, where the government cannot address all socio-economic issues due to budget constraints and community self-governance and involvement in resolving these issues is highly desirable.

In order to involve community in a decision making process and resolving selected and prioritized problem of the community, the program utilized the time-old practice of "hashar" to foster a sense of local ownership and save money. In addition, raising a sense of ownership among the target population through contributions was one of the key elements to ensure sustainability of the project.

Another factor that has contributed to quick community mobilization process is the existence of formal organizational structure at the community level in Uzbekistan, namely the Makhalla Citizens Council (makhalla). Traditionally this was a form of neighborhood self-governance, resting on the elders in the community. After independence, the Government of Uzbekistan decided to strengthen, expand and formalize this structure, partly in order to fill the gap in providing social security and ensuring community cohesion. Although makhallas are "*de jure* autonomous self-governing community-based organizations, they are *de facto* under a degree of state control as the chairperson, elected by the community, can be vetoed by the district administrator. Nevertheless, the makhalla is a by and large effective mechanism to provide social security to its members, undertake small-scale community events and

projects, and communicate information on new laws and regulations” (Harfst 2006a, p. 20).

However, during the cotton and wheat planting and harvesting campaigns, celebration of various holidays and events, and even while collecting the debts for utility services from the population, the presence and active participation of the Makhalla Citizens Council is demanded. Therefore, it puts a lot of work and pressure on the staff of MCCs, which subsequently impacts on their abilities to effectively manage and control processes within the community. But without their support and involvement, the program could face many obstacles and difficulties during the implementation of infrastructure projects and the mobilization processes within the communities. Therefore, the program has established strong relationships and heavily relied on Makhalla Committees while working with communities, since they were not only official representatives, but also a lowest structure of local government presence at the community level.

The combinations of existing formal and informal institutions allowed the program quickly gather people around their common interest, establish an initiative group and help them in resolving their prioritized problems through a self-help participatory approach. The role of initiative groups during the implementation process of the infrastructure projects was invaluable. Due to a big amount of communities participating and working with the program, some of the activities were delegated to initiative groups at the places. In general, the initiative group was involved in every step of work conducted by the program within the community. The initiative group was

responsible not only for developing the application, community map and project documents, but also for mobilization of resources, controlling the construction processes, monitoring at the community level, ensuring timely delivery of the planned activities, assistance and participation in capacity building of the community through specialized trainings, as well as ensuring sustainability of outcomes after the project's closure. However, all the work and activities of the initiative groups, as well as the communities were closely monitored and required technical assistance was extended by the experts of the program on a constant basis (ELS 2009b, 2009a, 2011).

The implementation of infrastructure projects were directly managed by the communities, with the program team facilitating this process and providing oversight at key points. Where required, the relevant Khokimiyat (City Hall) departments were also involved in providing technical and advisory support, mostly in gas, drinking water and electricity supply projects. Upon completion of the project, the rehabilitated infrastructure was handed over officially to the relevant organization in the district responsible for development and maintenance of that infrastructure. For example, rehabilitated drinking water infrastructure was transferred to the District Water Department, or in some cases to community based Water Committees/Organizations established for maintaining the infrastructure. In order to insure sustainability of the system, each Water Committee elaborated a maintenance and sustainability plan for water supply system established together with the program (Annex 36).

Although, in program's inception report (2009b) it was expected that contribution of the communities would be no more than 50%, the actual share of

communities was higher, up to 60% of the total cost of the project. The majority of this contribution consisted of in-kind labor and less share in materials and cash. “Moreover, communities have put in place mechanisms for levying charges or user fees to cover cost of operations of the infrastructures and their repairs and maintenance. These projects have further strengthened the high social capital already well developed through the practice of hashar and gave community members an opportunity to build lateral relationships as equal members of the community towards something they collectively own” (ELS 2012, p. 15).

One of the innovations of the ELS program was introducing a participatory planning process at community level, which has enhanced capacity of the community to mobilize and more effectively plan resources for economic and social development of the community (ABD-ELS 2012). The program promoted the importance of wide participation of the community in planning activities and supported the elaboration of multi-year community development plans (CDP) that encompass prioritized community needs, suggested solutions, internal opportunities and required additional support to address those needs (Annex 7). The success of CDP in target communities led to replication of this approach in other neighboring communities that were not part of the program (ABD-ELS 2012). The replication process was also boosted and supported by the Mahalla Information and Resource Centers that were established under the district offices of Mahalla Fund through the support of the program. These Centers were helping communities in developing project related and other documents, served as a knowledge center and repository of the communities’ socioeconomic data collected

during the project, and assisted in developing CDPs and inclusion of those CDPs into government funding programs (ELS 2009b, 2012).

“The involvement of communities in CDPs which are now linking communities preferences for delivery of public services and socio-economic development mobilization of resources with the district government level annual investment planning process needs institutional mandate from central government if current interest in decentralized planning is to be sustained. Without this mandate, effectiveness of CDPs will remain uncertain” (ELS 2012, p. 16).

Chapter 3: Literature Review

3.1. Introduction

The sustainability of outcomes of development assistance is becoming one the major concerns of many development agencies and development organizations, due to lack of significant and positive changes in poverty reduction and overall improvement of livelihoods of rural population.

Beginning from 1960s and 1970s, community development theories started recognizing participatory approaches as key methods in addressing top-down disempowering practices. The development practitioners argued that governments, NGOs and organizations making decisions about communities have to step away and switch to bottom-up approaches, where communities have the responsibility for making their own decisions about development (Chambers 1994). These bottom-up views and approaches were commonly accepted and various literatures on participatory community development and governance have emerged. However, the criticism about effectiveness of these approaches also started emerging. “Participatory development initiatives typically seat people’s participation firmly within ‘projects’ and ‘programs’ managed and funded by professionals in organizations. Whether these are projects to empower ‘disadvantaged communities’ narrowly, or ‘citizens’ broadly, experts and their institutions are still cast as the initiators, the developers, the agents of change” (Eversole 2012, p. 30).

Ostrom (2007) defines first and second generation of collective action theories. While defining a first generation collective action theory she refers to theories of Olson (1965) and Hardin (1968), where it was concluded that individuals cannot achieve joint benefits due to self-rational behavior. In order to overcome the problem of collective action it was suggested that there should one or all of the following elements: coercion by external authority, selective incentives, or privatization. The second generation theories of collective action were formed after decades of experimental studies influenced by behavioral and evolutionary game theoretic models. In the second generation of collective action theories the existence of multiple types of individuals as a core principle of modeling has been acknowledged. The shift in the theories of collective action allowed looking at and including different factors that affect individuals' choices and activities regarding collective action, common interests and benefits from this cooperation.

This literature review will encompass two major influential theories of Olson and Ostrom about collective action and concepts related to capacity building and leadership that have an affect on success of cooperation of individuals. These two theories and concepts are key points to this study while analyzing community development projects that used participatory approach for the success and sustainability of outcomes.

3.2. Theories about Collective Action

Various types and forms of collective action existed and are still present naturally among various nations in different parts of the world. "Collective action arises when

efforts of two or more individuals are needed to accomplish an outcome. Activities that involve the furtherance of the interests or well-being of a group are often examples of collective action” (Sandler 1992, p. 1). Despite existence of the potential to gain significant benefits from collective action, and participants who have agreement on how and what has to be done, it still might take a lot of effort to coordinate actions of potential beneficiaries. For a long time it was believed that people who share a common goal would naturally join their efforts to coordinate their activities and resources to obtain benefits from these actions. They will act collectively, if the benefits from these actions exceed the cost, either by forming informal groups or establishing formal organizations (Olson 1965). There was a generally accepted viewpoint that the motivation of groups is the same as the motivation for an individual, and if the benefits from group action is greater than the cost, then the group will be formed for yielding benefits from this collective action. However, the practice shows that not every group that could have potential benefits from joint efforts were able either to organize, or if they did organize were not able to sustain their activities. Therefore, it is still an open question and many research efforts are focused on determining answers to this question.

3.2.1. Olson’s Contribution to the Theory of Collective Action

The big influence on the theory of collective action and challenge to the generally accepted viewpoint was made by Mansur Olson in his book “The Logic of Collective Action” (1965). According to Olson “unless the number of individuals in a

group is quite small, or unless there is a coercion or some other special device to make individuals act in their common interest, *rational, self-interested individuals will not act to achieve their common or group interests*" (Olson 1965, p. 2). This means that if the group is large and all members of the group are self-interested and rational, they would not voluntarily act to achieve their common goal, which challenges the generally accepted viewpoint about collective action.

Olson argued that the group size is one of the key elements of successful collective action. Each member of the group might have a different value or discount rate for a collective good wanted by the group. Therefore, the group size has a great effect on ability of the group to act collectively and provide the collective good; hence the small group will act differently than the large group. He suggests that "there is a tendency for large groups to fail to provide themselves with any collective good at all" (Olson 1965, p. 28).

Olson argued that small groups have greater abilities to provide a collective good, because each member "gets such a large fraction of the total benefit that he would be better off if he paid the entire cost himself, rather than go without the good" (Olson 1965, p. 44). In addition, the reduction of resource contribution by one or more members of the group would reduce the total benefit of the group and would be easily noticed by other members of the group. Therefore, the possibility of successful collective action and benefiting from yields of the collective goods is higher among small rather than large groups.

In contrast, in large groups where contribution of the member does not make a noticeable difference to the group in general, including his benefits and burdens, there is a high chance that collective good will not be provided unless some coercion or external inducements will force members of the large group to act in their common interests.

The third group in his classification is an intermediate group. This group depends not on the number of members participating, but more on how significant role and contribution of the member of the group. He leaves it open whether the intermediate group would be able voluntarily to organize and create a collective good.

To overcome problems related to collective action of large groups, Olson proposed following three main solutions: coercion, selective incentives and federated structure. Here coercion is related to required participation and contribution of resources usually enforced by external forces and regulations, but it can be internal as well. Olson stated that only selective incentives will motivate a rational member of the large group to act collectively in the common interest of the group. The collective action in large groups can take a place if the incentive is not discriminatory, but rather selective toward members of the group. The incentive should be "selective, so that those who do not join the organization working for the group's interest, or in other ways contribute to the attainment of the group's interest, can be treated differently from those who do. These 'selective incentives' can be either negative or positive, in that they can either coerce by punishing those who fail to bear an allocated share of the costs of the group

action, or they can be positive inducements offered to those who act in the group interest” (Olson 1965, p. 51).

The incentives can be not only economic, but social as well. People sometimes might be motivated by the desire for respect, higher status within the group or society, or due to various personal and other reasons. One of the common social incentives within small groups can be a friendship, when friends use a social pressure to be able to organize and create a collective good. “Social sanctions and social rewards are ‘selective incentive’; that is, they are among the kinds of incentives that may be used to mobilize a latent group” (Olson 1965, p. 61). However, social pressure and social incentives work better when the group is small and everyone knows each other. For the large groups it can be used in federated structures, when this consist of a number of small groups joined a large group for certain reasons and would like to be a part of this group. The social incentives are “important mainly only in the small group, and play a role in the large group only when the large group is a federation of small groups” (Olson 1965, p. 63).

Olson sustained the traditional economic assumption of rationality, where each individual acts in his own best interests. Therefore, despite the formal or informal agreement to act collectively and share the benefits of such efforts, the members of a group have no incentives to share the cost of provision of collective good. As a result, even if the group was able to organize and initiate collective efforts and actions, it will be difficult to maintain these activities and the group will have a propensity to undersupply the desired level of collective good (Olson 1965).

3.2.2. Ostrom's Contribution to the Theory of Collective Action

Ostrom (1990) argues that the concepts of tragedy of the commons, the prisoner's dilemma, and the logic of collective action are closely related models with focus on collective action of individuals, which share a common free-riding problem. "Whenever one person cannot be excluded from the benefits that others provide, each person is motivated not to contribute to joint effort, but to free-ride on the efforts of others. If all participants choose to free-ride, the collective benefit will not be produced" (Ostrom 1990, p. 6). However, some individuals might choose to provide while some other members free-ride, which will result in less than the optimal level of benefits of the collective good.

Ostrom (2003) indicated that Olson's focus in his theory of the logic of collective action was to identify a single theory that explains group's behavior in producing collective goods. His argument that excludability characteristic of the good defines all public goods, was influenced by a debate between Paul Samuelson and Richard Musgrave about classification of goods and the need for non-market institutions to provide one kind of public goods. Samuelson (1954) argued over the consumption attribute like "jointness of consumption" in private and public goods. In other words, the consumption of a good by one individual does not lead to subtraction from the total amount that is available for others. Musgrave (1959) argued that a different attribute of the good, excludability, is more important than "jointness of supply" in public goods. The principle of exclusion will divide by itself the private and public goods. Therefore,

Olson while developing his general theory was much relying on Musgrave’s definition of goods.

Ostrom (2003) indicated that Olson’s work induced researchers to go further and develop a new classification of goods by combining Samuelson’s and Musgrave’s definitions of goods. Grounded on these definitions four broad classes of goods, based on consumption characteristics, were developed and commonly accepted (Table 1).

Table 1. Samuelson’s and Musgrave’s Classification of Goods

	Samuelson’s Classification	
Musgrave’s Classification	One person’s consumption subtracts from total available to others	One person’s consumption does not subtract from total available to others
Exclusion is Feasible	Cell A	Cell B
Exclusion is Not Feasible	Cell C	Cell D

Source: Ostrom, Elinor (2003), “How Types of the Good and Property Rights Jointly Affect Collective Action”, *Journal of Theoretical Politics* 15(3), p. 241

This classification of goods was done by combining the definitions of Samuelson and Musgrave, which were categorized based on the difficulty of exclusion and subtractability:

- a) Private Goods (Cell A) - one person’s consumption subtracts from the availability of consumable benefits to others, but exclusion relatively easy.
- b) Club Goods (Cell B) - subtraction is relatively minimal and exclusion is easy.
- c) Common-Pool Resources (Cell C) - subtractability occurs and exclusion is difficult.
- d) Public Goods - consumption is not subtractable but exclusion is not possible either.

However, in real life these goods may share features and may not be easily categorized into one specific group. “Few goods are purely public or purely private. Most possess mixed benefits. Goods that only partly meet either or both of the defining criteria are called impure public goods.” (Kaul, Grunberg, and Stern 1999, p. 4).

Both public goods and common-pool resources, due to the high cost of excluding potential beneficiaries from the resource, share the same problem, a free-riding problem (Ostrom 1990). Unlike the case of public goods, the consumption of common-pool resources by one individual reduces the total amount that is available to others, and it might be very expensive or not feasible to exclude that individual from the resource. Therefore, implications derived from a theory of public goods, which are based on non-subtractive attributes of the goods, are not applicable for the analysis of common-pool resources.

It is important to make a distinction between the resource system and resource units produced by that system. “Resource systems are best thought of as stock variables that are capable, under favorable conditions, of producing a maximum quantity of a flow variable without harming the stock or the resource system itself” (Ostrom, 1990, p. 30). Due to subtractability characteristics of the resource unit, the consumption of the resource unit may lead to approaching the limits of the CPR. The overuse of the resource units, which exceeds the average rate of replenishment of the system, might put in danger the existence of the whole resource system itself. Therefore, it is essential for producers and providers of a CPR, who may be the same individuals, to ensure the long term sustainability of the CPR system.

Ostrom (1990) argues that organizing individuals for collective action regarding a CPR is generally a difficult, uncertain and complex process. The uncertainties can be external (weather, diseases, market fluctuations, etc.) and internal (rules, structure, leadership and others). The knowledge is one of the main sources of the uncertainty. The uncertainties coming out from the lack of knowledge can be reduced over the time, if appropriate efforts are done to increase that knowledge. However, it can be costly and decreasing uncertainty usually is never completely achieved.

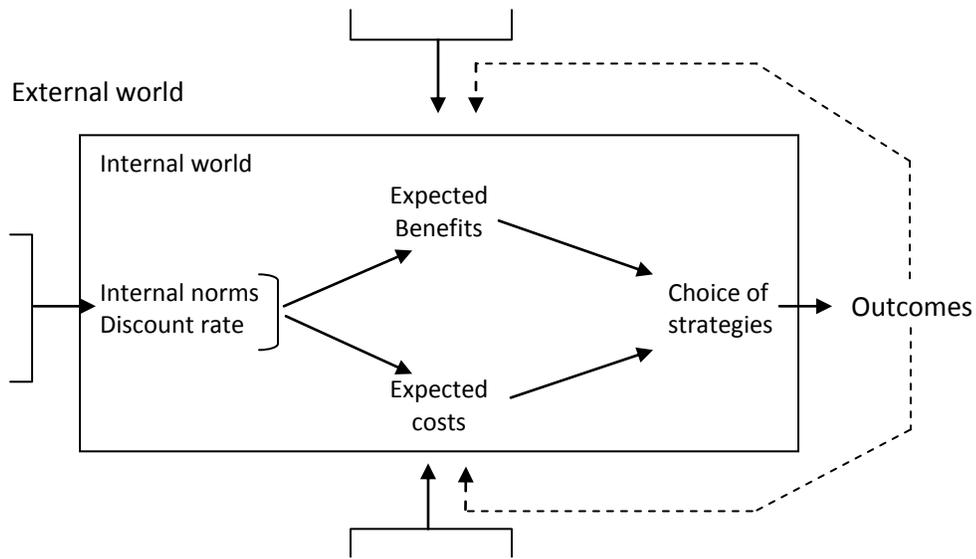
“Collective-action problems arise whenever individuals face alternative courses of actions between short-term self-regarding choices and one that, if followed by a large enough number of individuals in a group, benefits all. The problem is one of overcoming selfish incentives and achieving mutually beneficial cooperative ways of getting things done. Solving the dilemma of collective action is not easy; whatever others do, an individual is always better off in the short-run by choosing not to cooperate with others”(Ostrom 2007, p. 5-6).

Another factor that affects collective-action problems is an individual’s discount rate. Individuals usually value more the benefits that they can obtain in the near future than those that they expect to receive in distant future. The discount rates might also be affected by the range of opportunities available for the individual outside of the particular situation, as well as by the shared norms of behavior in a particular group or community. “Norms of behavior reflect valuations that individuals place on actions or strategies in and of themselves, not as they are connected to immediate consequences” (Ostrom 1990, p. 35). Individuals find it very important to maintain their reputation as a

reliable and honest community member, especially if they have long-term plans for living within this society. This long-term self-interest strengthens individual's acceptance and obedience to the rules and norms of behavior common within that community.

However, in every society or group there will be individuals who will break the norms and attempt to gain benefits from the given opportunity. Even the most loyal individuals might break the norms if the potential benefit from this opportunistic behavior will be very high. Ostrom (1990) distinguished the following four internal variables that affect the individual's choice: expected benefits, expected costs, internal norms, and discount rates (Figure 4).

Figure 4. The internal world of individual choice.



Source: Ostrom, Elinor (1990), "Governing the Commons. The Evolution of Institutions for Collective Action", Cambridge University Press, 1990, p. 37

When individuals independently and uncontrollably subtract the resources from a CPR system, the total benefit that they obtain is usually less than they could have if acted collectively and coordinated their activities. One of the main problems in this situation is how to change the situation and organize individuals to act collectively in

order to obtain higher level of benefits and ensure sustainability of CPR. “Individuals frequently are willing to forgo immediate returns in order to gain larger joint benefits when they observe many others following the same strategy” (Ostrom 1990, p. 39).

Ostrom (1990) argues that operational rules for long-term sustainability of CPRs usually vary from place to place based on local context, values, and cultural views, economic and political agendas of that particular country or society. Therefore, instead of developing specific rules, she elaborated a set of seven design principles that characterize long-term sustainable CPR institutions, plus an eighth principle used in the larger and complex cases. “By ‘design principle’ I mean an essential element or condition that helps to account for the success of these institutions in sustaining CPRs and gaining compliance of generation after generation of appropriators to the rules in use” (Ostrom 1990, p. 90). These principles were designed based on observation of various case studies about CPR institutions/systems in existence from one hundred to more than a thousand years, and still exist and stable in the present. In these case studies communities collectively address their problems with focus on preserving or limiting access to scarce common-pool resources.

Table 2. Design Principles illustrated by long-enduring CPR institutions

1.	<i>Clearly defined boundaries.</i> Individuals or households who have rights to withdraw resource units from the CPR must clearly defined, as must the boundaries of the CPR itself.
2.	<i>Congruence between appropriation and provision rules and local conditions.</i> Appropriation rules restricting time, place, technology, and/or quantity of resource units are related to local conditions and to provision of rules requiring labor, materials, and/or money.
3.	<i>Collective choice arrangements.</i> Most individuals affected by the operational rules can participate in modifying the operational rules.
4.	<i>Monitoring.</i>

	Monitors, who actively audit CPR conditions and appropriator behavior, are accountable to the appropriators or are the appropriators.
5.	<i>Graduated sanctions.</i> Appropriators who violate operational rules are likely to be assessed graduated sanctions (depending on the seriousness and context of the offense) by other appropriators, by officials accountable to these appropriators, or by both.
6.	<i>Conflict-resolution mechanisms.</i> Appropriators and their officials have rapid access to low-cost arenas to resolve conflicts among appropriators or between appropriators and officials.
7.	<i>Minimal recognition of rights to organize.</i> The rights of appropriators to devise their own institutions are not challenged by external governmental authorities.
8.	<u>For CPRs that are parts of larger systems:</u> <i>Nested enterprises.</i> Appropriation, provision, monitoring, enforcement, conflict resolution, and governance activities are organized in multiple layers of nested enterprises.

Source: Ostrom, Elinor (1990), "Governing the Commons. The Evolution of Institutions for Collective Action", Cambridge University Press, 1990, p. 90

3.2.3. Advances in Theories of Collective Action

Meinzen-Dick, DiGregorio, and McCarthy (2004) argue that while studying collective action in development programs in many cases the importance of voluntary action is not often mentioned. In addition, collective action sometimes considered within the frame of formal organization and property rights in terms of formal titles issued by the government. They argue that rights do not necessarily mean complete ownership or authority over the resource, and different individuals, groups or the state can hold overlapping use and decision-making rights. "To be secure, rights should be of sufficient duration to allow one to reap the rewards of investment and should be backed by an effective, socially sanctioned enforcement institution. This institution is not always the government; communities or other institutions may provide the backing" (Meinzen-Dick, DiGregorio, and McCarthy 2004, p. 3). They argue that collective action and

property rights are interdependent, especially in common property regimes, where holding common rights is necessary for strengthening collective action and managing the resource.

In this case, the property rights can be viewed as overlapping combination of different rights, which Meinzen-Dick, DiGregorio, and McCarthy (2004) group as: a) the rights to access, withdraw, and exploit the resource for economic benefits, and b) decision making rights, which include rights to manage, exclude, and alienation of the resources. The sources of property rights can be international and state laws, religious and customary laws and practices, project laws (if it is a project), organizational laws or rules devised by the group itself.

Meinzen-Dick, DiGregorio, and McCarthy (2004) also argue that poor or marginalized people usually have limited access to resources (including time), and therefore they find that participation in collective action is too costly. Even a slight increase of rights to common property or participation in collective action often provides insurance and improves bargaining positions of the poor. This idea is also supported by Bruce (2004), who states that poor remain poor “not simply because their holdings are small, but also because their land rights are weak and insecure” (Meinzen-Dick, DiGregorio, and McCarthy 2004, p. 33).

McCarthy (2004) argues that even within the same community people usually tend to act collectively to provide certain public goods, but fail to do so in others. Therefore, she defines five potential incentive structures for collective actions and

provision of public goods, though she acknowledges that the actual number of possibilities might be more:

- a) Case one – every individual is better off contributing to the public good even if no others contribute. In this case, the role of the group might be only to share information and coordinate activities;
- b) Case two - the individual may be better off contributing to the public good if no one else does, but when others contribute the individual would prefer to “free ride,” or contribute nothing;
- c) Case three - the individual might prefer to contribute to the public good if all others do but would not if no one else does;
- d) Case four - the individual may prefer not to contribute if no one else does and also prefer to free ride if everyone else contributes;
- e) Case five - it may be the case that it would be best, under existing conditions, not to provide the public good at all.

McCarthy (2004) indicates that “any factors that enhance a group’s ability to identify common goals, work together, and negotiate in good faith will enhance cooperative capacity and thus reduce the costs of undertaking collective action. Trust among members was one of the first factors to be identified” (Meinzen-Dick, DiGregorio, and McCarthy 2004, p. 33). She also supports Olson’s theory about group size and finds that the size of the group is one of the determinants affecting the success of collective action.

3.3. Social Capital and Collective Action

In sociology, economics and political sciences a term “social capital” has been defined in various ways, but despite of different focuses and purposes, the foundation of all those definitions holds on “relations” (Narayan and Cassidy 2001) and the benefits

(cooperation, access to resources, etc.) resulting from these relations. Thus, it can be stated that social capital “exists only when it is shared” (Narayan and Cassidy 2001, p. 2). This idea can also be viewed in Ostrom’s work (1990), who argues that “shared norms that reduce the cost of monitoring and sanctions activities can be viewed as social capital to be utilized in solving CPR problems” (Ostrom 1990, p. 36). The Australian Bureau of Statistics (ABS) also defines social capital as “networks, together with shared norms, values and understandings which facilitate cooperation within or among groups” (ABS 2002, p. v), which is now commonly accepted view in the Organization for Economic Co-operation and Development (OECD).

Although, the notion of social capital was first introduced by Bourdieu (1980) and Coleman (1988), it was Putnam’s (1993) seminal work that popularized the concept of social capital. Putnam and Leonardi (1993) defined social capital as “features of social organization such as networks, norms and trust that facilitate co-ordination and co-operation for mutual benefit” (Putnam and Leonardi 1993, p. 35-36). Since then, the idea of social capital has been expanded by including connections and interaction between heterogeneous groups (Putnam 1998).

This concept has been further enhanced by Ostrom (1990, 2007; 1994) while studying collective action and analyzing common-pool resources (CPR) and CPR managing institutions. Ostrom (2007) defines three types of social capital that are important for studying collective action: a) trustworthiness, b) networks, and c) formal and informal rules or institutions. She views social capital as “an attribute of individuals

and of their relationships that enhance their ability to solve collective-action problems” (Ostrom 2007, p. 5).

As a main attribute of social capital Ostrom (2007) defines a trust, which is a core link between social capital and collective action. Ostrom (2007) argues that trust itself “is not a form of social capital but an outcome of the forms of social capital linking them to successful collective action. The existence of trust among a group of individuals can often be explained as a result of the other forms of social capital such as trustworthiness of people, networks, and institutions” (Ostrom 2007, p. 9).

Institutional rules also create incentives for individuals to behave in a trustworthy manner (Ostrom 2007). The institutional rules can be formal and informal, and influence on individual’s behavior through both mechanisms: rewards or punishment. North (1993) defines institutions as rules of the game, where organizations and individuals are the players. “Institutions are the rules of the game of a society or more formally are the humanly-devised constraints that structure human interaction” (North 1993, p. 5). The main role of institutions is to reduce uncertainties through establishing a structure for individuals’ interaction, and determining and limiting the set of the choices of individuals (North 1990). The quality and obedience of individuals to those rules usually depend not only from the content, but also from how these rules are implemented (Freitag 2006). Therefore, it can be summarized that social networks and institutions play significant and important roles in increasing trust among individuals that collaborate and act collectively to yield benefits from this cooperation.

3.4. Capabilities, Capacity Building, Leadership

In addressing issues like economic development and poverty reduction, many researchers and practitioners build their insights and theoretical frameworks based on Capability Approach, which was introduced and promoted by Amartya Sen. It has contributed and strengthened the multidimensional approach of poverty analysis, emphasizing the importance of focusing on agency and empowerment. While analyzing development, Sen proposed to change the focus from the income-led evaluation methods to people's ability to achieve the things that they value. Therefore, instead of measuring wellbeing by income and consumption, the focus could be done on assessing availability of choices and freedom of people (Frediani 2010).

Alkire (2005) argues that capability approach requires to view functionings, or in other words capabilities of people, while doing evaluation of a group of person's wellbeing for future poverty reduction activities. People tend to have different values and priorities, and development interventions should be related to what people value and have a reason to value. Sen (2005) was also against to developing a fixed list of capabilities by arguing "The problem is not with listing important capabilities, but with insisting on one predetermined canonical list of capabilities, chosen by theorists without any general social discussion or public reasoning. To have such a fixed list, emanating entirely from pure theory, is to deny the possibility of fruitful public participation on what should be included and why" (Sen 2005, p. 158).

"However, capability building and diffusion in less privileged contexts is no easy task; the poor are often isolated from the resources required to do so and there is a lack

of collective action often necessary to achieve development goals” (Ansari, Munir, and Gregg 2012, p. 815). In addition, as Ansari, Munir, and Gregg (2012) indicated, many scholars argue that social capital is an essential component of community development and it may provide the necessary connection between the poor and the resources available through external institutions or groups.

Bebbington (1999) defines capitals not only as resources used for building livelihoods, but also as assets that give to people the capability and ability to act. He also outlines that human and social capitals are important in conceiving livelihoods. He stresses the importance of social capital, because it offers more integrated framework for thinking about access to resources. The human capital is also widely recognized as a critical factor in economic productivity, as well as in development and poverty alleviation. Thus, many development organizations working at grassroots level usually allocate comparable amount of resources for development of human capital.

All types of capital involve or require investments that increase the degree of higher returns from individuals or group of people over a future time period. Schultz (1961) indicated that investments in production techniques and technology required comparable investments in human capital in order to achieve agricultural development. Grounding in part from this statement, it can be concluded that education or training is one of the central components of strategies in reinforcement and capacity building of individuals. Therefore, opportunities for human and social capital development will depend upon the type of investments and/or activities available for individuals (Chaskin 2001).

In development programs, based on community capacity, these investments usually vary from educational programs to community-oriented activities that encourage building and expanding networking, strengthening socio-economic linkages within and outside of the community. There are various concepts and definitions of community capacity exist, however the following minimum factors should be present in order to define it: a) existence of resources, b) networks of relationships, c) leadership, and d) supporting mechanisms of problem solving or collective action among community members (Chaskin 2001).

Mattessich, Monsey, and Roy (1997) outline that the definition of capacity may also contain any one or all of the following elements: the commitment and motivation a community has, the ability to organize and utilize the resources, the ability to understand and analyze the problems, and the skills to solve problems together. The core idea lying behind all these definitions is the ability and capacity of individuals to work effectively together for achievement of common goal or resolving the shared problem.

The effective cooperation usually requires good leadership skills from the individual or group of individuals that lead the community, inspire, initiate, organize, and manage activities and resources. In general these leaders are viewed as representatives of the social institution known as community, not formal organizations (Pigg 1999). Therefore, community leaders usually rely on their networks, influence, and relationships with other community members to accomplish some planned activities or things to be done, instead of relying on formal authority and power derived from this

position (O'Brien and Hassinger 1992). Here, it is important to distinguish the difference between meanings of the leader and leadership. The leadership is not a position, but rather an interactive process of influence occurring between leader and individual within larger social process that leads to collective common good. This view is also supported by Pigg (1999), who proposes following statement for defining a leadership: "Leadership is not a characteristic, trait, or 'thing' possessed by certain individuals to the exclusion of others in the community, but a relationship based on influencing behaviors in interactions between leaders and followers" (Pigg 1999, p. 201). Good leadership is not about dominating, controlling or executing a power, but rather is about sharing and distributing this power among members of the group, empowering, inspiring and mobilizing them to undertake collective action to pursue a common goal.

Wheatley (2010) defines that the effective leader's task is to embody simple governing principles like guiding visions, sincere values and organizational beliefs, and then to help organization (formal or informal) become the standard it has declared for itself. It is also important to get people involved into any kind of group work, because when people engage together to learn about their collective identity, it affects them as individuals as well. They can see how their personal patterns and behaviors contribute to the whole, which at the end motivates them to take responsibility for changing themselves and be more effective and productive, since they see themselves as individuals that can contribute to the outcome.

Another aspect that determines a good leadership within the group is building a sense of ownership among members of the group. Wheatley (2010) suggests that

ownership implies an emotional investment of employees in their work. The ownership describes a personal connection of the individual and belonging to the particular group, which inspires individuals to contribute or cooperate for benefits of collective action. People tend to be more productive and effective when they believe that they “own” the idea or the achieved result, and get motivated further by this idea.

The connection between education, i.e. investment into a human capital and capabilities of people is obvious. Better educated people tend to make more sound and rational decisions, act effectively, and get engaged in socio-economic activities that lead to development of the community, and concern about long-endurance and sustainability of planned or achieved outcomes. According to David Mathews, President of the Kettering Foundation, “In a world, effective communities appear to be different, not because of economic or demographic or regional factors, but because they are simply better educated as a community. That is, they are good at educating the whole community in the community’s business.”

3.5. Conclusion

Previous studies indicate that there are many possible factors and motives among individuals for collaboration and producing collective goods. Researchers have classified these factors and individual’s motives in a variety of ways, including individual’s self-rationality, selective incentives, social capital, heterogeneity and size of the groups, external power, etc. The review of the literature outlines that various factors affect individual’s decisions regarding cooperation and compliance to rules, or

deviate and free-ride for self-benefit. Olson (1965) defines three main indicators that might initiate a cooperation and have influence on the success of collective action producing a public good. On the other hand, Ostrom (1990, 2003, 2007) argues that it is not credible to explain group's behavior in producing collective goods using a single theory. She defined several indicators that have effect on collective action and developed eight "design principles" that characterizes long-enduring CPR institutions.

While numerous factors affecting the success of the collective action have been identified through previous studies, there are a limited number of researches that indicate which factors are important for development agencies that use participatory approach in community development programs to ensure the success and sustainability of outcomes. Although, there are various researches exist on collective action regarding public goods and common pool resources, they do not provide a clear framework for analyzing success or failure of development projects that used participatory approach, including indicators for the analysis. In addition, they do not provide any guidance regarding which indicators are appropriate for analyzing the spontaneous collective action (for example to create a public good or SPR) and for a collective action that ensures long-endurance and sustainability of the outcomes or created institutions as a result of the collective action.

This study sheds light on what type of indicators are possible to apply while studying and analyzing collective action in community development projects, particularly if they are related to creation of CPR systems. This study may lead to an improved understanding of factors affecting success or failure of participatory

approaches in development sector and sustainability of outcomes of the programs, which may in turn lead to improved design of future development programs and interventions, as well as increase effectiveness of development assistance focused on poverty reduction and improvement of livelihoods of poor.

Chapter 4: Conceptual Framework

4.1. Introduction

This chapter focuses on identification of indicators and development of a framework using and linking theories of collective action and other concepts that will help to understand the factors affecting collective action decisions and cooperation of individuals, as well as sustainability of outcomes of the community projects.

The study will analyze common-pool resource (CPR) projects, where a community using a participatory approach addressed water related problem and created a CPR system. Despite the fact that water is a common pool resource, due to rivalry and difficultness of exclusion characteristics (Fisher et al. 2010; Heikkila 2004; Ostrom, Gardner, and Walker 1994; Sarker, Ross, and Shrestha 2008), it can be a private good as well depending on characteristics of the created CPR system (Chichilnisky and Heal 1998). The CPR projects used for analysis in this study are water projects implemented by a development agency in Uzbekistan. The development agency while addressing scarcity of water in the community builds a CPR system, which does not restrict access to water, thus creating a CPR problem, i.e. a problem of sustainability of the common-pool resource itself. However, while doing the analysis of the sustainability of outcomes, the focus will be given to long-endurance and sustainability of the CPR system rather than to the common-pool resource itself, because the goal of the program was to create a sustainable CPR system that will ensure constant access to water for local population.

The current study will review projects that addressed lack of access or water scarcity issues within communities in Namangan region of Uzbekistan. It will use Olson and Ostrom theories to analyze effectiveness and sustainability of outcomes of CPR projects that used participatory approach while implementing those development projects in rural communities of Uzbekistan. During the analysis the impact of other factors like social capital, capacity building and leadership within the community will be also examined to determine the importance and affect of these factors on community mobilization and collective action efforts.

4.2. Conceptual Framework

During the last decades, various studies were done to understand the success of collective action (Mansuri and Rao 2012; Mattessich, Monsey, and Roy 1997; Meinzen-Dick, DiGregorio, and McCarthy 2004; Moura and Chaddad 2012; Ostrom 1990). However, less studies have been done on the sustainability of collective action of development programs (Meinzen-Dick, DiGregorio, and McCarthy 2004) that will improve effectiveness of development assistance and sustainability of programs outcomes. In order to fill a portion of this gap in the literature, the study results presented in chapter 6, demonstrate the role and importance of each identified indicator in success of collective action and sustainability of the outcome.

The current study will focus mainly on two most influential theories of collective action and related concepts that can bring some insights in understanding reasons of collective action and problems related to this issue in community and rural development

projects. While examining the case studies the focus will be given first to the indicators that affect incentives of individuals to initiate and act collectively. The study of the Olson's theory suggests that selective incentives, size of the group and coercion can determine and lead to collective action of individuals. Therefore, these three indicators will be included into the analysis of the case studies, in order to identify whether selective incentives induce or coercion forces people to work collectively and how size of the group has an impact on success or failure of that collective action.

Ostrom's work suggests that characteristics of the good and local context are important for the success of collective action. In addition, for the assessment of "healthiness" and long-endurance of the collective action she proposed eight "design principles", which are essential elements or conditions that help to account for the success of these institutions in sustaining CPRs (Ostrom 1990). Therefore, during the analysis the indicators like characteristics of the good and local context will be reviewed to define how they determine and affect incentives of individuals for collective action. Besides, out of eight principles only seven will be included into the analysis of case studies, since the last eighth principle is more relevant for bigger structures with nested sub-groups. Thus, while analyzing participatory approach used in development projects the following principles will be used to determine robustness of the institution: 1) clearly defined boundaries, 2) Congruence between appropriation and provision rules and local conditions, 3) collective choice arrangements, 4) monitoring, 5) graduated sanctions, 6) conflict resolution mechanisms, and 7) minimal recognition of rights to organize.

In order to strengthen the analysis of the cases, the study will complement these two influential theories about collective action with an indicator like social capital. In particular, it will examine how existing social norms and rules affect individuals' behaviors and their decisions regarding conformity to rules or free-riding. In addition, it will also review the impact of existing institutions on collective action and power of these institutions over the community members and their influence on processes within the community. Particularly, the study will look how existing formal institution (Mahalla Citizens Council) and customary institution (hashar), which are almost similar in all four cases, together with newly created institutions (Water Committee and the Initiative Group) by the project affect incentives of people to cooperate and produce a collective good.

The last two indicators are related to human capital, i.e. capacity building and leadership. Sen (1997) and Bebbington (1999) argued that development and livelihood improvement has to be pursued through the fostering of economic growth and investment in human capital. Therefore, the study will examine whether any capacity building efforts were undertaken to enhance community members' capabilities to identify and properly address their socio-economic issues, as well as mechanisms created for sustainability of outcomes from the collective action. According to Pigg (1999), the leadership is an interaction process between leader and individuals of the group that may lead to the success or failure of the collective action depending on behavior of the leader. Therefore, while analyzing leadership, the study will review

behavior of the community leader, his or her inclusiveness and ability to share information and power with other members of the community.

The following indicators were selected to analyze case studies of community development projects where a participatory approach was used by the development agency:

1. Selective incentives – this indicator will help to understand how different incentives might affect individual's decisions regarding participation in collective action processes. Therefore, during the analysis of cases, a separate focus will be given to how the incentives of people affected cooperation and collective action process.
2. Group size – Olson argued that the group's size is one of the indicators of the success of the collective action, and large groups can not automatically find the incentives that face members of the group and come to consensus. He argued that the large group "always contains more people than could possibly know each other, and it is not likely ... to develop social pressures that would help it satisfy its interest in collective good" (Olson 1965, p. 63). Therefore, the study while reviewing case studies will analyze whether the size of the group has an impact on the success of the collective action. In this case, the size of the group will be measured not only by the number of people in the group, but also by the trust and knowing of people each other and the success of the process.

3. Coercion – Olson argued that large groups usually tend to fail to successfully act collectively due to free-riding problem of self-interested rationality of individuals. In order to overcome this problem one of his suggested solutions was an external force, i.e. coercion or some other special device or condition that makes people to act in their common interests.
4. Characteristics of the collective good – Ostrom argued that “attributes of the goods produced and allocated, as well as the rules used for their production and allocation, affect the diverse incentives that participants face” (Ostrom 2003, p. 248). Therefore, the study will analyze how physical characteristics and property rights of the collective good, as well as created rules and sense of ownership affect incentives of people to cooperate in both short and long term perspectives.
5. Local context - while studying or managing CPRs Ostrom suggests using an inclusive and polycentric approach, due to complexity (local context, socio-economic and political situation, culture, etc.) of the issue. Mansuri and Rao (2012) also found that many development projects pay little attention to local context while designing their intervention strategies. Therefore, the study will look how local situation (geographic, political, economic, etc.), heterogeneity and number of the poor, existing formal and informal customary institutions affect the success of the collective action.
6. Clearly defined boundaries – this is the first principle of Ostrom’s “design principles” for analyzing robustness of the CPR institution or system. “The

clarity of the social boundary rules influence incentives for cooperation” (Poteete, Janssen, and Ostrom 2010, p. 100). This indicator will be used during the case studies analysis for defining boundaries of the resource system and users of the collective good, as well as their rights, and how the presence of defined boundaries affect the incentives of individuals for long-term and sustainable collective action.

7. Congruence of rules - Poteete, Janssen, and Ostrom (2010) argued that rules allowing fair and proportional allocation of benefits and contributions among individuals are more likely to be accepted as equitable and may reduce the risk of free-riding. Therefore, the study will look whether distribution of inputs and rights for water appropriation are fair and widely accepted by the community.
8. Collective choice arrangements – this indicator outlines importance of the ability of individuals to participate in making or modifying rules. “If there are many serious disagreements, there will be no coordinated, voluntary effort, but if there is a high degree of agreement on what is wanted and how to get it there will almost certainly be effective group action” (Olson 1965, p. 59). The importance of collective choice arrangements is also outlined by Ostrom, who said that “participants adopt resolute strategies to cooperate so long as everyone else cooperates. If anyone deviates, the models posit that all others will deviate immediately and forever” (Ostrom 1990, p. 93). In addition, Ostrom (1990) argued the presence of good rules does not ensure that

appropriators will follow them. Therefore, while doing analysis of the cases separate attention will be given to how rules were created and whether they were enforced externally or developed internally on a mutual agreement basis by the community itself.

9. Monitoring – the importance of monitoring is widely discussed and accepted by many researchers. Therefore, the study will look on whether monitoring was conducted by the program or community itself, and how this process affected on compliance and shirking behavior of community members.
10. Graduated sanctions – Ostrom (1990) argued that sanctions are integral part of the design principles and sanctions for violating rules should be graduated. The study will review whether any separate sanctions toward shirking or not participating members were developed by the community or the program while implementing community development projects, and the impact of these sanctions on the success of the project.
11. Conflict resolution mechanisms - Poteete, Janssen, and Ostrom (2010) argued that there should be rapid and low-cost arenas for resolving conflicts among users or between them and officials. The study will look whether any mechanisms were developed by the community or the program for resolution of conflicts between interested parties of the project.
12. Minimal recognition of rights – In order to ensure long-term existence of the created CPR system, there should be operational rules established to manage and ensure sustainability of the CPR system. Ostrom (1990) indicates that

external government officials assume that only they have the authority to set the rules. Therefore, it is important that local authorities recognize rights of local users to create own rules-in-use for the CPR system. During the analysis this indicator will be used to analyze whether the members of the community have rights to make their own rules and whether local authorities recognize these rules.

13. Social Capital - Ostrom (2007) outlines importance and incorporates social capital into collective action framework, arguing that the forms of social capital like trustworthiness, networking and institutions facilitate and increase the degree of individuals' collective action. Therefore, while doing analysis of cases the existence and impact of trust and existing customary institutions (for example a hashar) on success of the collective action will be reviewed.

14. Capacity Building – this indicator will be used to analyze whether the program made any efforts towards building capacity of the community members and the impact of these efforts on overall success of the project. The focus will be given whether community members acquired enough knowledge and skills to successfully launch the project and cooperation between members of the community, as well as knowledge required for ensuring sustainability of the outcome of the project, i.e. constant access to clean drinking water through long-enduring and sustainable CPR system.

15. Leadership – this indicator will be used to analyze how successfully a leader was able to communicate and share information, power and decision about participation in program activities among members of the community, as well as impact of the leadership on overall implementation of the project and success of the collective action.

The community projects analyzed in this study were implemented by the United Nations Development Programme in Uzbekistan, which uses Prince2 management methodology for implementation of its projects (Muray 2007). This methodology defines four stages of project implementation, which are: a) starting a project (preparation), b) initiating a project, c) implementation and d) closing a project. The preparation process of current CPR projects was done by the communities themselves and no appropriate data is available for analyzing collective action in this stage. Therefore, the study reviewed the process of collective action and the role of each identified indicator based on the rest three modified stages, which are: initiation, implementation and sustainability of the outcome after project’s closure. Accordingly, the indicators were also categorized into three following groups:

Indicators affecting initiation of the cooperation	Indicators affecting the process of collective action	Indicators affecting long-endurance and sustainability of the outcome
✓ Selective incentives	✓ Group size	✓ Characteristics of the good
✓ Coercion	✓ Congruence of rules	✓ Clearly defined boundaries
✓ Characteristics of the good	✓ Coll. choice arrangements	✓ Congruence of rules
✓ Local context	✓ Monitoring	

- ✓ Clearly defined boundaries
- ✓ Social capital
- ✓ Capacity building
- ✓ Leadership
- ✓ Social capital
- ✓ Leadership
- ✓ Coll. choice arrangements
- ✓ Monitoring
- ✓ Graduated sanctions
- ✓ Conflict resolution mechanisms
- ✓ Minimal recognition of rights
- ✓ Social capital
- ✓ Capacity building

Some of these indicators were categorized in two or three groups, since they have importance in all these categories. For example, one of the elements of social capital, trustworthiness, is important throughout the whole process. The individuals usually tend to cooperate with each other if they trust to people in the group, and suspend this cooperation if they lose their trust. While, other indicators can be important for more than one group, due to specific effects they have on each particular group. For instance, capacity building for initiating the cooperation might require different set of tools (trainings on capacity assessment, mobilization, planning, etc.) and approach, while the same indicator requires other types of trainings (management of the organization, bookkeeping, etc.) for ensuring long endurance of the created institution or system.

During the analysis of the cases, the study will review presence and relevance of each indicator and the role in the success of the collective action. The comparison across case studies seeks to identify how these indicators play a role in programs that use participatory approaches for development.

4.3. Research Methods and Data

The study used a case study approach due to the qualitative nature of the research question. According to Yin (2008) using a case study research design is appropriate while addressing the research questions that study contemporary events, and the relevant behavior cannot be manipulated. The projects of the current study were implemented in the past and analysis of the cases will be done based on secondary source of information like project's internal documents, documents publicly available on the website and various documents provided by the communities to the development program. There were no direct interviews conducted by the investigator, due to the impossibility to contact people who participated in these projects.

Yin (2008) defines two main types of case study designs: a single-case and multiple-case designs. The single-case design is more appropriate in a situation where critical, unique, typical or revelatory case is the focus of the research question. The multiple-case design is appropriate when the focus of the analysis is specific characteristics of two or more cases and/or the similarities and differences between cases. Because of the comparative nature of the research questions in this study, an embedded multiple-case design was used for analyzing community projects, initiative groups and collective action of each community. The unit of analysis in this study will be a community participating in the project, as well as the project itself.

While using embedded multiple-case study design, the current study did analysis of embedded unit within each case with interpretation of results at the single-case level. The patterns and explanations for each case study were then compared across cases,

following replication mode for multiple cases. The conclusion drawn from multiple cases are used as a conclusion for the overall study.

Yin's (2008) pattern matching logic helps to compare and interpret empirical findings with predicted, i.e. identified indicators from theories of collective action. The quality of the research was ensured through constructing validity, internal validity, external validity and reliability tests. In order to have construct validity, multiple sources of evidence are needed. Therefore, the investigator collected information required for the analysis through multiple resources, i.e. archival records like internal program documents, documents elaborated by the community, and website of the program. Triangulation of data sources was done to ensure quality of the analysis of case studies. Furthermore, a chain of evidence was ensured when information was collected through these documents to improve reliability. For instance, the overall information about program was collected through an inception, progress and final reports. The information about each community project was collected through initial documents like community information, application, guarantee letter and community development plan, which were developed by the community and through program documents like project description, budget and project summary.

In order to ensure internal validity two out of three modes of analysis were applied. Pattern matching and explanation building were used to compare identified indicators with empirical evidences. Time-series analysis was not possible for any of these case studies, due to insufficiency of available data. The external validity test was ensured through application of replication logic and generalization of findings from the

multiple cases studies, i.e. community projects where a participatory approach was used. The last test, reliability, was ensured by maintaining a chain of evidence and developing a database of the case studies used in this study with clearly defined variables for the analysis.

Table 3. Case Study Tactics for Four Design Tests

Tests	Case Study Tactic	Phase of research in which tactic occurs
Construct validity	<ul style="list-style-type: none"> ✓ use multiple sources of evidence ✓ establish chain of evidence ✓ have key informants review draft case study report 	data collection data collection composition
Internal validity	<ul style="list-style-type: none"> ✓ do pattern matching ✓ do explanation building ✓ address rival explanations ✓ use logic models 	data analysis data analysis data analysis data analysis
External validity	<ul style="list-style-type: none"> ✓ use theory in single-case studies ✓ use replication logic in multiple-case studies 	research design research design
Reliability	<ul style="list-style-type: none"> ✓ use case study protocol ✓ develop case study database 	data collection data collection

Source: Yin (2008, p. 41)

Chapter 5: Case Studies Analysis

5.1. The Setup of Case Studies

The study selected four CPR projects among seven available cases that addressed access to clean-drinking water in the community, because the documents to analyze the projects were available. In the remaining projects some documents were missing. The selected projects are from four districts located in eastern, northern, western and central parts of Namangan region. All four communities were selected by the program based on criteria that were mutually agreed to and endorsed by stakeholders. While doing analysis, this research used a set of documents elaborated by the program and by the target communities to analyze each case study. The program closed in 2011, which limited access to documents. The following set of documents were obtained and used for the analysis of the cases:

- a) Community information – this information was provided to the program by each community during the selection process. This document gives background information about the community.
- b) Application form – this document was provided by pre-selected communities for participation in the program. This document provides additional background information and also indicates the needs of the community.
- c) Community description form – this internal document was elaborated by the program, based on information and documents provided to the program by the

community, to get approval from higher management and launch the project in the community;

- d) Budget – this document is part of the set of documents developed by the program together with the community for approval and launching of the project. This document provides information about the share and other specifics of the contribution from each side, the community and the program.
- e) Guarantee letter – this document was provided to the program by the Mahalla Citizens Council of the targeted community as a proof of the commitment and contribution of the community.
- f) Community Development Plan – this document provides information about plans for further development of the community, including a timeframe, possible funding sources and responsible people. In addition, this document shows whether the capacity of the community was built by the program towards sustainable development of the community.
- g) Project summary – this document was prepared by the program for internal use. This document provides brief information about community, mobilization and monitoring processes, success or difficulties faced during the implementation.

Each case study will be analyzed against identified indicators of collective action specified in the framework. These are: selective incentives, group size, coercion, characteristics of the collective good, local context, the seven design principles, social capital, capacity building and leadership. In order to ensure quality of the case study

analysis a comparison will be done among program documents and documents elaborated by communities.

5.2. Case Study A.

5.2.1. A Brief Overview of the Project.

Period: *April-May, 2009*

Project budget: *9,618,600 UZS*

Community contribution: *5,603,600 UZS*

ELS contribution: *4,015,000 UZS*

Population/beneficiaries: *2,905/1,112 people*

Number of households/families: *534/632*

Number of low income families/unemployed: *116/51*

Number of registered waterborne diseases: *1,221*

Distance to the closest water source: *1.5 km*

Yangikurgan district is located in the North of Namangan region and also borders with Kyrgyzstan. The district has a higher altitude due to closeness to the mountain area, which limits production of some agricultural products. In addition, this district is a cotton-free area, due to unfavorable conditions for this crop. Therefore, farmers only have one government's "quota" crop, wheat.

The target community is located on a foothill area. The majority of people are mainly engaged in grain production and horticulture (Annex 13). The population of the community consists of 2,905 people (632 families), with approximately 116 poor

families (Annex 8). The community was suffering from lack of drinking water and inhabitants, mostly women and kids, had to bring the water from a neighboring community. Sometimes they had to buy and bring water in a tank for the whole community. The underground water is too deep and it is too expensive to drill artesian wells in the community. In addition, a hydrogeological examination indicated that the underground water in this area is salinized and contaminated. The only solution was to bring water from a spring located 1.5 kilometers away from the community (Annex 14).

In general, the implementation of the project was successful and quick, due to high degree of involvement of the community in all levels of planning, including efficient allocation of resources and distribution of workload, which has excluded shirking of people from community activities. Thus, the contribution of the community was fulfilled in a week and the project (infrastructure works) was completed within 4-5 weeks (Annex 10). Upon completion of the project a Water Committee was established under the Mahalla Citizens Council, in order to effectively manage water supply and operation of the system, including provision of maintenance and sustainability of the infrastructure (Annex 13 and Annex 14).

5.2.2. Findings of the case A.

1. Selective Incentives. An opportunity to get access to the clean drinking water was the main leading factor and an incentive that drove people to work collectively (Annex 14). The benefits for the community from cooperation and having this project were both social and economic. The economic benefits included: a) constant access to relatively

cheap clean water, because the system does not require electricity for water supply, which significantly reduces the cost of the water (Annex 14); b) 42% of the total project cost was covered by the program and 18% of the community contribution was in-kind, which is an additional positive incentive for people to cooperate (Annex 11); c) the community members do not have to buy and bring water in a tank anymore; and d) decrease of spending for health, due to reduced waterborne diseases. The social benefits are: a) reduced amount of time women and children spend collecting water; b) children are not involved in carrying water from the neighboring community and can spend more time in school; c) decreased number of waterborne diseases (the number of waterborne diseases cases was 1,221, Annex 8).

2. *Group size.* The project summary indicates that almost all households of the community participated in this project (Annex 14). The community has 534 households and assuming that at least one person from each household was involved in this project; the size of the group could exceed 500 people (Annex 8). Despite a large number of people in the group, the collective action and project implementation was quick and successful. Due to high respect and trust to elders and members of the initiative groups, community people collectively and successfully built water supply system in a very short period.

3. *Coercion.* No documents reported use of external forces or coercion during implementation of the project. Therefore, there is no evidence that coercion took place in this project to enforce people to cooperate and produce a collective good.

4. Characteristics of the collective good. Due to limited water discharge abilities of the spring, people share the water from a pipeline, which is located on the street and has faucets every 100-200 meters along the line (Annex 14). Despite the fact that water is CPR due to rivalry characteristics, the system built for provision of water has characteristics of public good. The rules created by the Water Committee, and contribution (financial means and labor force) of the community created a sense of ownership of the project, which had a positive impact on success of the project and should ensure sustainability of the system in the future. However, there is a risk in long term perspectives that community may fail to act collectively to sustain the system built by the project, because it has characteristics of public good, which may create incentives for free-riding among its residents.

5. Local context. The location of the community and limited alternatives for water access put a lot of pressure and created incentives for people to cooperate in order to benefit from the opportunity provided by the program in getting water to the community. Despite the relatively high percentage of low-income families in the community (about 22% from the total population), the availability to make an in-kind contribution (about 17%) in terms of provision of meal and labor allowed to involve all levels of the population into this activity (Annex 8 and Annex 11). In addition, the cost of community contribution, as well as the total cost of the project, was not very high and affordable when divided between all households (approximately USD \$5.0 per household). Existence of local formal (Mahalla Committee) and informal customary institutions (traditions to respect elders, hashar, etc.) had a positive impact on successful

implementation of the project. In addition, the absence of quota for cotton suggests less workload and pressure from local authorities on MCC Chairman and staff, which gives them more freedom and time to be involved and be active in their communities (Annex 14).

6. Clearly defined boundaries. As it was described earlier, the program had a certain criteria and selection procedure, which clearly defined boundaries of intervention area (Annex 2). The property right and appropriators boundaries were defined by the Water Committee, which identified its contingent of appropriators and elaborated operational rules to ensure sustainability of the system (Annex 14).

7. Congruence between appropriation and provision rules and local conditions. The initiative group together with residents elaborated own development and sustainability plan for the community. In addition, a water committee was established under MCC to ensure maintenance and sustainability of water system. The specialists of the committee together with community members developed and agreed rules, where payment schedule and amount of monthly fees per household were defined (Annex 14). All these facts show that community members cooperated in all levels of activities, and there is congruence between water users and institution (provider), which was established and rules were devised collectively.

8. Collective choice arrangements. In this case, a high degree of involvement of the community in elaboration of operational rules and collective arrangement issues, as well as distribution and monitoring of people and resources for creating a collective good can be observed. For instance, effective distribution of labor and allocation of resources

allowed the community to dig 1.5 kilometers trench in a week by assigning an area for digging (approximately 3 meters per household) for each family. Cooking of meal for hashar workers was agreed and equally distributed among women (Annex 14). Due to high interest and involvement of the community in collective arrangements, there was a little incentive for people to free-ride.

9. Monitoring. A system to monitor the progress of project was well developed by both community and ELS program. The ELS team usually had overall monitoring responsibilities, which consisted of visits to the community at least once a week to ensure that implementation of the project within the scheduled plans and extend assistance if required. Daily monitoring activities were performed by the initiative group members and community itself (Annex 14). Since all households had clearly defined contributions, skipping any of them could be easily detected by other members of the community. In this case, the information about compliance rate was relatively easy accessible and public, therefore transaction cost of monitoring the process was low and much easier to perform for monitors.

10. Graduated sanctions. The ELS program had two possible ways of sanctions toward noncompliance of the community to the mutual agreement: 1) influence the process of implementation by withholding funding for the project until problems were resolved, and 2) enforce them through involvement of local authorities in this problem. However, both sanctions are not gradual and low, as it was suggested by Ostrom (1990), because they impose harsh sanctions.

However, a historical background and existing traditions indicate that the community has its own informal institutions, where rules and sanctions are usually commonly accepted and followed by every member of the society. In general, these sanctions are not severe and mostly limited by verbal notice, which in most cases is sufficient and has a positive effect due to culture and mentality of people of Central Asia, which was built on respect to elders and personality reputation.

In general, although there were no formally written graduated sanctions developed neither by program nor by community itself for implementing the project, there was still an informal institution with commonly accepted rules and sanctions within the community, which had a positive and significant effect on compliance of people and success of the collective action.

11. Conflict-resolution mechanisms. In general, there were no written formal conflict resolution mechanisms developed by the program. The program mostly relied on existing formal and informal institutions of the community, and in serious cases of noncompliance it has counted on local authorities support and influence. Due to specifics of the culture, traditionally conflict resolution mechanisms existed in every single community, where elders performed roles of “informal judges”.

12. Minimal recognition of rights to organize. Due to privileges provided to MCC by the government, the institution created within the project has rights recognized by local authorities and various district departments and services.

13. Social capital. Respect of elders and compliance to rules during the project implementation, which can be observed through a high level of mobilization of people,

shows a high degree of trust and existence of customary institutions within the community (Annex 14). One of the examples of social capital can be seen in a tradition called “hashar”, which is successfully used by the community and program. In addition, engagement of people in community activities during the process and after completion of the project indicates about their inclusiveness and participation in social life, which also indicates high level of social capital of individuals and community.

14. Capacity building. The program conducted several group meetings, various seminars and discussions with inhabitants of the community in order to improve their knowledge and capacity to deal with community’s issues. Improved capacity of the initiative group and community members can be seen through their increased knowledge and abilities to craft various documents, enhanced capacity in addressing problems and planning techniques, secure a future funding from the government, and improved knowledge about importance of ensuring sustainability of outcomes (Annex 6, 11, 13 and 14). In addition, using the knowledge and experience gained during the project, community members later made some construction works of the road where new and young families live (Annex 14).

15. Leadership. The chairman of Mahalla Committee was elected as a leader of the initiative group, and this factor provided an additional weight and success to the project at the end, since the chairman was very active and well respected person in the community. In addition, the fact that elders and an official representative of the community jointly working together to address community’s common problem had a positive effect on the rest of population and boosted incentives to act collectively for

resolving water problem (Annex 14). This indicates about existence of trust and respect towards leadership, which ensured inclusiveness of community members in all processes of implementation of the project and building their sense of ownership.

5.2.3. Analysis of the Case A

All selected indicators are interconnected and in some way have a strong or weak influence on success of the collective action, as well as affect each other in a particular case. In this case the incentive of people to get access to clean drinking water was enhanced by existing social capital and good leadership, which had positive effect on success of the project.

In general, factors like absence of alternative water resources, existence of customary institutions and trust among people, various trainings and seminars organized by the program, and good leadership of the project had positive effects and strengthened the initiation process of collective action and further cooperation of people. In addition, the size of the group in this case was a positive factor rather than negative, because involvement of higher amount of people allowed decreasing the cost of the share (financial means and labor) per household (10,494 UZS). Since coercion did not take a place during the initiation process and implementation of the project, this indicator was not important for this particular case.

The indicators from “design principles” that characterize robustness and long-endurance of CPR system, show that five out of seven principles, which are *clearly defined boundaries, congruence of rules, collective choice arrangements, monitoring and minimal recognition of rights to organize* are present this particular case. The *graduated*

sanctions and *conflict resolution mechanisms* indicators were weak, although they did not affect the success of collective action. The assumption would be that indicators like *social capital*, *capacity building* and *leadership* compensated these weak principles.

5.3. Case Study B.

5.3.1. A Brief Overview of the Project.

Planned period: *June-July, 2011 (actually it took more than 7 months)*

Project budget: *33,445,000 UZS*

Community contribution: *17,845,000 UZS*

ELS contribution: *15,600,000 UZS*

Population/beneficiaries: *2,210/1,010 people*

Number of households/families: *432/520*

Number of low income families/unemployed: *284/56*

Number of registered waterborne diseases: *390*

Distance to the closest water source: *2 km*

Uchkurgan district is located in the east of Namangan region and borders with Kyrgyzstan. Due to close location to Norin River, it has favorable conditions for agricultural production. Therefore, the district has higher quotas for cotton and wheat crops, due to fertility of the soil and abundance of water. The district also has a milling and oil refinery plants, which provides employment opportunities to local population.

Community B borders with Kyrgyzstan Republic and has a population of 2,210 people (520 families) with approximately 284 (55%) poor families (Annex 15). This

community was selected and included to the program due to high level of poor families, absence of natural gas and lack of access to clean drinking water (Annex 15, 20 and 21). The water supply system was very old and outdated, thus people during the last 5-10 years were mostly using water from a canal that effluents from Norin River. The program together with community in a very short time successfully implemented a gas supply project, which was one of the best community projects of the program and used later as example for other communities (Annex 21).

Due to success and efficient collective work of the community, the program, as an experiment and reward for their hard work, agreed to fund the second prioritized problem of the community, lack of clean drinking water. Since capacity of the community was built during the first project and they know how to work, the program decided to skip that phase. After preparation and submitting of all necessary documentation, the tender procedures for materials supply were launched by the program and the community also started working on its part of contribution. However, due to various external and internal reasons the project has stalled and it took almost a year for the program to complete this project through constant visits and discussions with community, and help of local authorities.

5.3.2. Findings of the case B.

1. Selective Incentives. Unlike the gas project, which was selected and successfully implemented earlier by this mahalla, the problem of water was neither prioritized, nor included into the development plan of the community (Annex 20 and Annex 21).

Therefore, there were no incentives for people to commit their resources and time for the project. Even though the water of the river was not clean, its availability was another reason that led to people's shirking behavior and had a negative effect on incentives of community members. In addition, a recent contribution to the gas project, plus the elaborated scheme of water supply system and calculations were done based on wrong information, which caused extra burdens and economic constrains on family budgets of the majority of people (approx. 55% are poor families), which in the end directly affected incentives of people (Annex 21). Although, the opportunity to get funding for resolving the additional problem could be seen as a reward for the community, but the economic pressure as well as low level of valuing access to clean water outweighed the benefits of the given "opportunity".

2. *Group size.* The project summary indicates that during implementation of the first gas project the degree of mobilization and effectiveness of cooperation was very high (Annex 21). This means that at least 500 people were engaged in this process, if one person from each household participated in a gas project (Annex 15). In the meantime, the same community during the second time, i.e. water project were not active and did not cooperate, therefore a problem of shirking people had arisen. This means that size of the group was not an issue during the first project, while it turned to a problem during the second project, where free-riding and lack of cooperation can be observed.

3. *Coercion.* In this case, the use of coercion took place during implementation of water project, which was not required during the gas project. In order to complete the water project with community, the program had to appeal for help and support from local

district authorities in resolving arisen problem of fulfillment of duties taken by the community. The project was completed only after involvement, with the use of external power executed by district authorities over the community (Annex 21).

4. Characteristics of the collective good. In this case, people share water from the system installed on the main street with 20 faucets in every certain distance (Annex 21). Although the water is common pool resource, the system built to supply water has characteristics of public good. Lack of knowledge of the health consequences of the water used by the community is a key factor in the lack of understanding that this water system would have a positive impact in their health. This lack of knowledge reflects high transaction costs of access to information, which is especially the case with people that don't have education.

In addition, the external enforcement, which took a place in this case, did not create a sense of ownership of the project among people of the community. Moreover, the system built by the project has characteristics of public good, which may create incentives for free-riding in long-term perspectives.

5. Local context. In this case, despite of existence of several different factors that affected and delayed implementation of the project, the main reasons were lack of knowledge and the availability of access to the alternative water resource (though not clean) for people of the community. Although, the project was completed by the community, it took a lot of efforts for the program to get it done using a power of external authorities (Annex 21). The reasons that negatively affected on success of the collective action can be summarized as follows:

- a) Different priorities and incentives of the community and the Chairman, who choose this additional project (Annex 21).
- b) High level of poor families, which is about 55% (Annex 15).
- c) Short period of time between first and second projects. Although capacity of people was built by the program, they needed more time to recuperate from previous financial burdens (Annex 21).
- d) Existence of the alternative water source, though water in this source was not clean enough for drinking (Annex 21).
- e) Lack of knowledge about effect of water on health of the people.
- f) Wrong timing. Majority of the male population was either busy in the fields or away for work in other regions or out of the country (Annex 21).

6. *Clearly defined boundaries.* As in case A, the program had a clearly defined geographical boundary of intervention area. Although, the project summary indicates about already existing Water Organization within community (Annex 21), which is responsible for resolving water related issues, none of the documents clarifies whether it has defined boundaries and rights of water appropriators. The assumption in this case would be that appropriators' boundaries and their rights to withdraw water were defined and agreed with community.

7. *Congruence between appropriation and provision rules and local conditions.* The project summary document indicates about existing local organization, which is responsible for water management issues and was involved in rehabilitation process of water infrastructure (Annex 21). However, there is no evidence that confirms that water

organization's rules-in-use ensure proportional equivalence between benefits and costs for participants of this project.

8. Collective choice arrangements. In this particular case, collective choice arrangements were weak, since the decision to participate in this program was not discussed and made collectively. Based on success of the previous gas project, the Chairman assumed that water project will be also quickly and successfully completed, and that was an opportunity that to resolve one of the existing problems and improve social conditions of the community (Annex 21). The decision taken individually by the Chairman of MCC caused discontent and shirking behavior among community members. Although, there were attempts to apply the same scheme and approach, which was used during implementation of gas project, the lack of incentives and absence of consensus led to the failure of collective action.

9. Monitoring. The overall monitoring process was conducted by the program on a continuous basis, while internal monitoring was done by the members of the community. At the initial stage, the system worked well and people kept complying generally accepted rules, which can be seen from digging of trench for water system. The delay of materials supply by the contractor of the program can be seen as a first reason that triggered a slowdown of the process, which was considered by the community members as noncompliance with rules (Annex 21). In this case, free-riding behavior of some individuals caused deviation of the whole community. However, it should be noted that in the previous gas project implemented by the same community, the process of monitoring was effective and compliance level of people was high.

10. Graduated sanctions. As it was mentioned before, the ELS program had two options to sanction noncompliance of the community to the mutual agreement: 1) withholding of funding and 2) enforcement through involvement of local authorities. However, both sanctions are not gradual and low, because they impose harsh sanctions.

Despite the fact that traditionally Uzbek communities have own internal rules, sanctions and informal institutions, in this case the shirking from obligations by the majority of people made it impossible to apply those informal sanctions toward free-riders.

11. Conflict-resolution mechanisms. None of the documents indicates about presence of formally written conflict resolution mechanisms of the program. Therefore, when problem of noncompliance arose in the community, the program had to ask for assistance from local district authorities. The internal conflict resolution mechanism that existed within the community did not work in this particular case, due to the scale of the problem, characterized by noncompliance of the majority of the community. Only after direct involvement of higher level authorities and elders of the community, the problem of nonconformity was resolved, but with almost a half year delay (Annex 21).

12. Minimal recognition of rights to organize. There was existing local organization, which was responsible for water management and resolving water related problems within the village (Annex 21). Therefore, there was no need to set up a new institution to manage water issues and ensure sustainability of CPR system.

13. Social capital. The current case shows that existence of social capital, which is characterized by trust, and obedience to existing local norms and rules, helped the

community to quickly mobilize and successfully implement the gas project. In addition, engagement of people in experience exchange and helping neighboring communities to implement similar projects indicates about bonding social capital that increases trustworthiness within and between communities. However, during implementation of water project social capital had no effect on implementation of the project.

14. Capacity building. The program like in other projects conducted information meetings, individual interviews, various seminars and trainings for community members in order to build their capacity for ensuring sustainability of outcomes of the project (Annex 6 and Annex 21). As a result of these efforts community members improved their skills in documentation, mobilization, planning, monitoring and effective management of processes. The acquired knowledge was applied during and after implementation of the gas project, when sustainability and energy saving measures and activities were carried out by the community members (Annex 21). However, the acquired knowledge was not efficiently used during water project. Therefore, the program had to conduct additional meetings and group discussions regarding importance of clean water and its effect on health of the population.

15. Leadership. In this case, the secondary problem of the community related to access to clean drinking water was picked and brought to the program by the Chairman of Makhalla Committee without prior discussion and agreement with the rest of the community (Annex 21). Therefore, leadership had a dual effect in this particular case. During the gas project the leadership ensured information transparency, power delegation, horizontal management of the processes, while in water project the same

leader, i.e. the Chairman of the community acted individually and made commitment without public agreement. The same leader was able to successfully lead implementation and collective action in the first project, and failed to do so during the second project, due to changing approaches in managing activities and processes within the community. In this case, different approaches in management and leadership led to different and opposite results, thus affecting the success of collective action and provision of collective good.

5.3.3. Analysis of the Case B

In this case the same indicators had different affect on the success of two different projects implemented in this community. While the gas project was successfully implemented, the second one, i.e. water project failed to act collectively. In order to produce a collective good, the external force by local authorities was used in order to complete the project. The failure of collective action can be characterized by low degree of water importance and consensus regarding the prioritized problem, and absence of knowledge about waterborne diseases and incentives of people to contribute resources for producing this collective good. Although, the in-kind contribution (88.5%) and monetary contribution (4,734 UZS) could be considered as positive incentives for people to cooperate, but the amount of work to be done manually was quite large (digging 3 km of trench), which also negatively affected incentives of people to act collectively. The indicators like group size and coercion were important for implementation and completion of the community project.

In general, the indicators like *size of the group, characteristics of the collective good, coercion, local context, collective choice arrangements, leadership* and absence of *incentives* had significant negative affect on initiation process of the collective action and further implementation of the project. At the same time, the indicators like *social capital* and *capacity building* did not have a significant effect on initiation process, as well as on collective action itself.

The Ostrom's theory on collective action indicates that difficulty of exclusion of people from the common-pool resource creates a problem of free-riding, but in this particular case the shirking behavior of people was caused by the absence of incentives rather than property rights of the collective good. In addition, during implementation of water project, social capital and building of the capacity had no effect on the process, due to low value of water, recent contribution to gas project, lack of knowledge about effects of water on the health and absence of incentives among people to participate in this project.

The indicators that characterize robustness and long-endurance of CPR system, show that only three out of seven "design principles" are present in this case. They are *clearly defined boundaries, monitoring and minimal recognition of rights to organize*. The indicators like *congruence of rules, collective choice arrangements, graduated sanctions* and *conflict resolution mechanisms* were either weak or absent in this case, thus characterizing that CPR appropriators were not able to adequately address problems and overall robustness and long-endurance of the CPR system might be fragile and even fail in long-term perspectives.

As Ostrom suggested, in this case the presence of rules did not guarantee the compliance of appropriators to those rules. One of the reasons is that the Chairman of the community herself broke these rules initially by taking a decision to implement water project without discussing and collectively agreeing it with all community members, thus excluding them from collective decision making processes and arrangements. Therefore, existing informal sanctions and conflict mechanisms did not work, because the scale of the noncompliance increased, due to exclusion of people from decision making process and incorrect prioritization of the secondary problem (water project in this case) that was supposed to be financed by the program.

5.4. Case Study C.

5.4.1. A Brief Overview of the Project.

Period: *April-May, 2010*

Project budget: *34,665,320 UZS*

Community contribution: *17,150,000 UZS*

ELS contribution: *17,515,320 UZS*

Population/beneficiaries: *2,687/2,110 people*

Number of households/families: *436/520*

Number of low income families/unemployed: *70/376*

Number of registered waterborne diseases: *204*

Distance to the closest water source: *50 meters*

Pap is the largest district in the region and located on the west. However, the majority of its land is desert and dry due to limited access to irrigation water. Although the soil fertility is comparatively low, the district is still the biggest producer of cotton and wheat “quota” crops in the region, which puts a lot of pressure on communities and Mahalla Citizens Councils (MCC) during various events and agricultural campaigns.

The target community is located 13 km away from the center of the district and has a population of 2,687 people (520 families) with approximately 70 (13.5%) poor families (Annex 22). Livestock (72%) and peasant-farming (25%) are the main income sources of the households in this community (Annex 23 and Annex 27). The priority problem in this community was access to clean drinking water. There was only one artesian well in the community, which was a property of the local college and located on its territory. Therefore, people from the community had to bring water from another water source, which was 1-1.5 km away from the community (Annex 22 and Annex 28).

The mobilization and implementation of the community project was quick and successful, due to high interest of people in this project. After various meetings and trainings, the initiative group together with community members elaborated a development plan of the community for 2010-2011. In addition, the agreement about changing ownership rights of the artesian well was achieved with the college, which transferred property rights and duties on water supply to Mahalla Citizens Council. Therefore, a responsible person for maintenance, collecting money and ensuring sustainability of the system was assigned by the community, who became a member of the Water Committee, which was established at the end of the project (Annex 28). The

contribution of the community was fulfilled in 3 weeks and project was fully completed in less than two months (Annex 24). In addition, the water supply system was installed on the main street with faucets in every 100 meters for public usage, but there were some households that extended potable water to their houses. Therefore, community set different monthly fees for households that use water from public sources than those who get water directly to their houses (Annex 28).

5.4.2. Findings of the case C.

1. Selective Incentives. Absence of access to clean drinking water was one of the main incentives for cooperation of people in this particular case. There were social and economic benefits for community members from this cooperation, which can be summarized as: a) access to clean drinking water; b) 50% of the total project cost was covered by the program and more than 80% of community contribution was in-kind, in terms of labor, meal, etc. (Annex 25 and Annex 26); c) no need to buy and bring water; d) reduced amount of time women and children spend for collecting water; e) more time can be allocated for education and other activities; f) positive externalities from decreased number of waterborne diseases (the number of registered waterborne diseases was 204, Annex 22 and Annex 24).

2. Group size. The community has 436 households and each capable household was assigned a portion of land for digging a trench (Annex 22 and Annex 28). Therefore, the estimate would be that around 400 people were involved in implementation of this project. However, due to high respect of elders, trust, efficient allocation of resources

and workload, the mobilization of this large number of people and collective action was quick and successful.

3. *Coercion.* None of the documents provided any facts of using external forces or coercion towards members of the community during implementation of the project. Therefore, the assumption is that coercion did not take a place in this project.

4. *Characteristics of the collective good.* Although water is CPR, the system built by the project provides two different characteristics of the collective good (Annex 28). First, public water faucets installed on the main street do not restrict access to the water, thus the system itself has characteristics of the public good. Second, households that extended the system to their houses can restrict access to water for non-family members. Therefore, due to rivalry and exclusion characteristics this collective good can be categorized as a private good.

The rules created by the Water Committee, and contribution (financial means and labor force) of the community created a sense of ownership of the project, which had a positive impact on success of the project and should ensure sustainability of the system in the future. In addition, the system built by the project has mixed characteristics of public and private good. Although, appropriators of both goods pay for the use of water at different rates, the sustainability of the system in long-term perspectives will depend mostly on rules-in-use and possibility of gradual changing of property rights of the rest of the system from public to a private.

5. *Local context.* The limited number of alternative opportunities to get access to water was the main factor for cooperation of people and getting water to the community.

Comparatively low level of poor families in the community (about 13% from the total population, Annex 22 and Annex 24) and ability to make an in-kind contribution (about 93%, Annex 25 and Annex 26), in terms of provision of meal and labor, have played a significant role in realization of the project, which allowed community to make a contribution without significant monetary inputs (approximately USD \$6.0 per household). Existence of informal (hashar) and formal (Mahalla Committee) institutions were additional driving factors that helped community successfully cooperate and implement the project.

6. Clearly defined boundaries. The program according to selection criteria and procedures clearly defined geographic boundaries of intervention area (Annex 2). The boundaries of water appropriators and their rights to appropriate were defined by the Water Committee established upon completion of the project (Annex 28).

7. Congruence between appropriation and provision rules and local conditions. In this particular case, congruence between appropriation and provision rules can be seen through different payments set for households using water from private and public sources. These rules were crafted by community members themselves and one person was assigned by them to collect funds and ensure maintenance of the system (Annex 28). In addition, setting different types of fees based on rights of the appropriators indicates that rules-in-use ensure proportionality between benefits and costs (fee for water). If cost-benefits are proportional then there is high chance that people will follow commonly accepted rules, since they will be widely recognized as equitable.

8. *Collective choice arrangements.* The effective distribution of labor, allocation of resources, and existing internal rules for water appropriators indicates about high degree of involvement of the community in elaboration of operational rules and collective choice arrangements (Annex 28).

9. *Monitoring.* As in two other cases, the program had overall monitoring responsibilities, which consisted of periodic visits to community to ensure timely implementation of the project and extend assistance when required. Daily monitoring activities of the project were done by members of the community and initiative group (Annex 28). Every household had own share of contribution, i.e. certain distance of trench or other assigned duties. Skipping any of those duties could be easily detected by other members of the community. Therefore, there were little incentives to free-ride, because this could be easily become public, due to density of population and existing social network. These factors also made transaction cost of monitoring process less costly and easy to execute for people in charge.

10. *Graduated sanctions.* As in other two cases, the ELS program had two options to sanction noncompliance of the community to the mutual agreement: 1) withholding of funding and 2) enforcement through involvement of local authorities. However, both sanctions are not gradual and low, because they impose harsh sanctions.

Therefore, the program mostly relied on community compliance to the agreement, as well as rules and sanctions existing within the community. The compliance to rules at the community level was mainly ensured through existing

informal institutions, and commonly accepted norms and sanctions, which are not severe and gradual.

11. Conflict-resolution mechanisms. In general, the program relied on internal conflict resolution mechanisms existed within community and support from local government, if there were cases requiring their involvement. But, there are no documents indicating that such involvement was required by the program.

12. Minimal recognition of rights to organize. Due to privileges provided to MCC by the government, the institution created within the project has rights recognized by local authorities and various district departments and services.

13. Social capital. Respect of elders, collectivism and mutual help, trust and focus on reputation, presence of customary institutions, and conformity to local traditions indicates about existence of social capital in this community (Annex 28). In addition, engagement of people in community activities during the process and after completion of the project are indicators of their inclusiveness and participation in social life, which also indicates about high level of social capital of individuals and community.

14. Capacity building. The program conducted a set of standard trainings and seminars, as well as group meetings and discussions with inhabitants of the community to improve their knowledge and capabilities to address community issues (Annex 6 and Annex 28). Improved capacity of the initiative group and community members allowed them to elaborate the community's development plan, effectively and jointly address the prioritized problem with the support of the program, and apply for state funding for

improvement of natural gas supply system within the community (Annex 27 and Annex 28).

15. Leadership. The initiative group consisting from elders and respected people of the community was able to establish efficient mechanism of cooperation through fair distribution of work between households, monitoring and operational rules-in-use (Annex 28). In this case, the leadership ensured horizontal distribution of power and inclusiveness of community members in the decision making processes and implementation of the project.

5.4.3. Analysis of the Case C

In this particular case the incentive of people to get access to clean drinking water was the most influential indicator that led to collective action and success of the project. In addition, factors like absence of alternative water resources, existence of trust, formal (Mahalla Committee) and customary institutions (hashar), improved knowledge and skills of community members to identify and effectively address problems, and good leadership enhanced collective action initiation process and further cooperation of people. The large size of the group allowed to decrease a cost of contribution per household, which was a positive rather than negative factor for successful collective action. In addition, availability of in-kind contribution in terms of labor (88%) allowed people to use own resources (labor force) and save money (monetary contribution was 3,185 UZS), which was an additional positive incentive for cooperation of people. Besides, the contribution of the community, both financial and

in-kind, helped to build a sense of ownership of the project among its members, which also positively affected on success of the project and would have influential effect in future sustaining of the system. The indicator *coercion* did not have any effect in this case, since no external power was used during implementation of the project.

From Ostrom's "design principles" that characterize long-endurance and robustness of CPR system, the five out of seven principles like *clearly defined boundaries, congruence of rules, collective choice arrangements, monitoring* and *minimal recognition of rights to organize* are characterized this particular case. The graduated sanctions and conflict resolution mechanisms characteristics were weak, although they did not affect the success of collective action. The assumption would be that indicators like social capital, capacity building and leadership compensated these weak principles.

5.5. Case Study D.

5.5.1. A Brief Overview of the Project.

Period: *February-June, 2010*

Project budget: *30,107,500 UZS*

Community contribution: *16,700,000 UZS*

ELS contribution: *13,407,500 UZS*

Population/beneficiaries: *3,178/1,403 people*

Number of households/families: *628/678*

Number of low income families/unemployed: *159/12*

Number of registered waterborne diseases: *57*

Distance to the closest water source: *2.5 km*

Turakurgan district, unlike others, is located at the center of the region and has favorable conditions for most agricultural products. The only limiting factor for agricultural growth is a scarcity of irrigation and drinking water. The district as any other district of the region has quota for cotton and wheat crops, which puts more pressure on other agricultural crops, water and soil due to intensiveness of production of quota crops.

This community is one of the densely populated central communities of Turakurgan district. The population of the community is 3,178 people (678 families) with approximately 159 (23.5%) poor families (Annex 31). The main income sources of the community families are from horticulture, livestock and other agricultural production (Annex 30, 34 and 35). Due to existing water scarcity within the district, this community also prioritized and decided to address a problem of water supply in first place (Annex 35).

The program through standard set of trainings, meetings and discussions enhanced knowledge and capabilities of community members in development and planning issues (Annex 6 and Annex 35). The initiative group consisting from 15 people was formed from elders, women and entrepreneurs, who had respect and reputation among people of the community. The group quickly elaborated a plan and distributed duties among group members and community. This project due to closeness to the main road required obtaining special permissions from local authorities, and installation of

the system and connection to the main water supply system had to be done in a very short time (Annex 35).

Although, the project was successfully implemented by the community, there were delays at the beginning of the project, which required involvement of external local authorities in order to resolve this problem. After reviewing and redistributing duties within the initiative group, a contribution of the community was fulfilled and completed within the week. As a result of this project a kindergarten, a school and district hospital get access to clean drinking water. In addition, after completion of the project, the community after group discussions decided to drill a new artesian well and cross-feed all water pipelines in order to ensure the sustainability of the project and uninterrupted water supply in the community (Annex 35).

Moreover, using the knowledge and skills obtained during the project, the community launched another project on natural gas supply using their own resources. The initiative group prepared the necessary project documentation and plan of installation of the new gas pipeline together with district gas supply department. The implementation of this project was launched and the necessary materials purchased at the time of the program was closing (Annex 35). The realization of this project will provide access to gas for the remaining 30% of population (more than 200 households).

5.5.2. Findings of the case D.

1. Selective Incentives. The main incentive for people to cooperate and join their resources for producing a collective good was absence of potable water in the

community. Benefits from this cooperation were: a) getting constant access to potable water; b) 30% of total cost was covered by the program (Annex 32); c) reduced amount of time of women and children spent collecting water; d) positive externalities from extra time for education and decrease of waterborne diseases (57 people, Annex 31).

2. *Group size.* Unlike in other cases, due to specifics of the current project, the cooperation of people can be seen in terms of financial contribution rather than the labor force. The group size here played a significant role, since the monetary contribution was higher than in other three cases and community's share was around 56%. Therefore, the more people get involved in the process, the less cost per household would be for the community. The estimate would be that almost 650 people were involved in implementation this project (Annex 29). Despite of the large size of the group, there was no sign of shirking and free-riding problem noted during the implementation of the project.

3. *Coercion.* In this case, the form of "coercion" took a place during the beginning of implementation of water project. The delay of implementation was caused by failure of the Chairman of MCC, who was responsible for launching organizational issues within the community, to delegate power and duties with other members of the initiative group and community members. After constant visits to the community and involvement of local authorities and community elders, the duties of the initiative group were revised and redistributed among members. The revised initiative group was able to quickly and successfully organize works, collect necessary funds required for community share, and launch implementation of the project. There was no involvement

of external authorities required for completion of the project after group's re-organization (Annex 35).

4. Characteristics of the collective good. Although water is considered as CPR, in this case the collective good of the project has characteristics of the private good, due to rivalry and easiness of exclusion of others from the CPR system. Unlike in other cases, in this project the system is closed and every household has potable water in the house extended from the main water supply system (Annex 32 and Annex 35). There were no public faucets installed on the main street.

5. Local context. Despite of comparatively high level of poor families in the community (approximately 23%, Annex 29, 30 and 35), there were some wealthy entrepreneur-community members who were willing to fund a significant part of the community contribution from their own resources. Thus, community was able to collect all required financial means in order to launch the project (Annex 31 and 35). The respect of elders, existing traditions, trust and social networks, as well as informal institutions allowed successfully mobilizing people around their common problem and addressing it through collective decision and action.

6. Clearly defined boundaries. As in other cases, the program based on selection criteria and procedures clearly defined geographic boundaries of intervention area (Annex 2). The boundaries for appropriators and their rights to appropriate were also clearly defined due to characteristics of the collective good. The households extended potable water from the main system directly to their houses, thus having clearly defined boundaries in terms of appropriation and property rights (Annex 35).

7. Congruence between appropriation and provision rules and local conditions. In this particular case congruence between appropriation and provision rules is not very clear, since the new system was connected to the main district water supply system, which is owned and operated by the District Drinking Water Supply Department. The assumption is that community will pay a fixed fee based on payment rates devised by the Department presently in operation, since it is widely accepted and in practice.

The project summary document also mentions about additional sub-project implemented by the community for improvement of uninterrupted water supply and ensuring sustainability of the system (drilling an artesian well for cross-feeding all water-pipelines, Annex 35). But this is beyond of the scope of current analysis and there are no documents available that provide additional information about nature and specifics of this sub-project for further analysis.

8. Collective choice arrangements. Despite of some delays at the beginning of project, high degree of participation of people in project development and decision making processes, quick mobilization of resources and implementation of the project, demonstrates involvement of the community in elaboration of operational rules and collective choice arrangements (Annex 35).

9. Monitoring. The overall monitoring of project implementation was conducted by the program through periodic visits to the project site and provision of technical assistance when it is required. Daily and internal monitoring was performed by the initiative group and communities members themselves (Annex 35). Since the project required more monetary contribution rather than labor, there was no need for sophisticated and

constant monitoring of activities. Every household had own share of contribution and refusing to provide it could lead to immediate dissemination of this information among population and become public, due to density of population and existing social network, which could create a negative reputation about them among people. In addition, the nature of the structure of water supply system could allow to easily exclude them from the source, if they free-ride or refuse to participate in this project. All these factors made a transaction cost of monitoring process less costly and easy to execute for people in charge.

10. Graduated sanctions. As in other cases, the program had two options to sanction noncompliance of the community to the mutual agreement: 1) withholding of funding and 2) enforcement through involvement of local authorities. However, both sanctions are not gradual and low, because they impose harsh sanctions.

Therefore, the program relied on community compliance to the agreement, as well as rules and sanctions existing within the community. The compliance to rules in the community was mainly ensured through existing informal institutions, and commonly accepted norms and sanctions, which are not severe and gradual. Regarding sanctions towards water appropriation, the assumption would be that District Water Supply Department, which took ownership of the system, has its own formally written sanctions towards free-riders and has enough power to enforce them when it is necessary.

11. Conflict-resolution mechanisms. As it was mentioned before, in general the program relied on internal conflict resolution mechanisms existing within the community and

support from local government in some exceptional conditions, when the community was not able to resolve the problem itself. In this particular case, when the problem of project implementation delay arose, the program had to request help and involvement of local authorities, who helped to re-organize the structure and power delegation among members of the initiative group (Annex 35).

12. Minimal recognition of rights to organize. In this case the collective action was a temporary and therefore no long-term sustaining institution was established, due to the nature of the project. The sustainability of the created structure would be ensured by the District Drinking Water Supply Department, since ownership of the structure was transferred to this organization after completion of the project.

13. Social capital. In this case the presence of the social capital can be seen through respect to elders and initiative group created by the community itself, trust, inclusiveness into a public life and obedience to existing local norms and rules consist with Uzbek community's norms (Annex 35).

14. Capacity building. In this case the program performed a role of a trigger for cooperation of people in addressing their problems. This community could implement all three community projects (first was done with program, and two others by themselves later) earlier without support of the program. However, they had lack of knowledge and leadership that could organize and make them work collectively to address their common problems. Therefore, when program conducted information meetings, individual interviews, various seminars and trainings for community members in order to build their capacity, this helped them to build a confidence in their

capabilities and ability to address community's problems using their knowledge and internal sources (Annex 6 and Annex 35). As a result of program's efforts, community members improved their skills in documentation, mobilization, and planning, monitoring and effective management of processes (Annex 32 and Annex 34).

The acquired knowledge was applied during implementation of water project with the program, and later in two other projects, when the community decided to do a sub-project to ensure uninterrupted water supply in the system and gas supply project, which they launched just before the program closure (Annex 35).

15. Leadership. In this case, at the beginning of the project the leadership failed to effectively organize the work and delegate duties and power. This failure led to delays in launching of the project, which was later eliminated by the involvement of local authorities and reviewing the initiative group's structure and duties (Annex 35). After reorganization of the group, the project was quickly launched and community's contribution was fulfilled within a week. The project in a very short time effectively was completed after change of the leadership.

The main reason for the failure of the first leadership was the inability of the Chairman of MCC to share power and delegate work and authority among members of the group. The Chairman was relatively young and inexperienced, plus work from its direct official position with additional duties taken during project implementation was overwhelming, thus leading to failure of meeting deadlines and performing all duties at the same time (Annex 35).

5.5.3. Analysis of the case D

The incentive of people to get access to potable water was very strong and had a significant influence on mobilizing people, joining their efforts and resources, as well as on overall success of the project. The factors like existence of internal donors (wealthy entrepreneurs) within community, private property rights of the collective good, trust and respect of elders, existence of formal and informal institutions, enhanced knowledge and skills of community members, and good leadership strengthened and positively affected the process of initiation of collective action and further cooperation of people. The impact of the group size in this case was positive rather than neutral or negative, since it helped to decrease the cost of contribution per household (26,592 UZS). Although, there was coercion during the implementation, but this was related to reorganization of the initiative group, not community coercion. Therefore, the effect of *coercion* was not significant and influential during the initiation process and implementation of the project. The effect of leadership was positive and negative, on the initial stage of collective action; first it had a negative effect on the process, and then positive effect when reorganization of the structure and redistribution of duties was done within the initiative group.

In this case, all seven “design principles” are present and characterize robustness and long-endurance of CPR system. Although, indicators like *congruence of rules*, *graduated sanctions* and *conflict resolution mechanisms* are not developed together with community, but given as a fact by the District Water Supply Department, which

renders public utilities throughout the district, they still can be considered as fair and widely accepted by other communities.

5.6. Cross Case Analysis

The following table (Table 4) provides a brief summary of important information related to all four cases, which can be useful for comparing and further analysis of the projects.

Table 4. A brief summary Information about community projects

Important facts	Case A	Case B	Case C	Case D
Planned period of implementation	<i>April-May, 2009</i>	<i>June-July, 2011 (actually it took more than 7 months)</i>	<i>April-May, 2010</i>	<i>February-June, 2010</i>
Total project budget	<i>9,618,600 UZS</i>	<i>33,445,000 UZS</i>	<i>34,665,320 UZS</i>	<i>30,107,500 UZS</i>
Total community contribution	<i>5,603,600 UZS</i>	<i>17,845,000 UZS</i>	<i>17,150,000 UZS</i>	<i>16,700,000 UZS</i>
In-kind contribution of the community	<i>1,224,000 UZS (22%)</i>	<i>15,800,000 UZS (88.5%)</i>	<i>15,150,000 UZS (88%)</i>	<i>1,586,500 UZS (9.5%)</i>
Monetary contribution per household	<i>8,202 UZS</i>	<i>4,734 UZS</i>	<i>3,185 UZS</i>	<i>24,066 UZS</i>
Population/beneficiaries	<i>2,905/1,112</i>	<i>2,210/1,010</i>	<i>2,687/2,110</i>	<i>3,178/1,403</i>
Number of households/families	<i>534/632</i>	<i>432/520</i>	<i>436/520</i>	<i>628/678</i>
Number of low-income families	<i>116 (18.4%)</i>	<i>284 (55%)</i>	<i>70 (13.5%)</i>	<i>159 (23.5%)</i>
Number of registered waterborne diseases	<i>1,221</i>	<i>390</i>	<i>204</i>	<i>57</i>
Distance to the nearest water source	<i>Neighbor community – 1.0 km, spring</i>	<i>3.0 km</i>	<i>50 meters</i>	<i>2.5 km</i>

	- 1.5 km			
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In order to identify differences or common patterns among the four cases cross case analysis was conducted. Based on findings and analysis of all four projects table 5 was developed to compare and reveal indicators that have discrepancy or common patterns for each case. This helps to understand the importance of each indicator for the success of collective action and its role in sustainability of the outcome.

Table 5. Indicators and design principles performance

Indicators	Case A	Case B	Case C	Case D
<i>Indicators affecting initiation of the cooperation</i>				
Selective incentives	Strong incentives, high value of water	Weak incentives, low value of water	Strong incentives, high value of water	Strong incentives, high value of water
Coercion	Coercion was not required	Coercion was required	Coercion was not required	Coercion towards IG, not community
Characteristics of the good	Public good, ownership sense built, collectively agreed rules	Public good, weak ownership sense, no information about rules	Public and private good, ownership sense built, collectively agreed rules	Private good, ownership sense built, existed rules
Local context	Absence of alternative water sources, cotton-free area, comparatively high level of poor	Existence of the alternative water source (poor quality), high level of poor, lack of knowledge, lack of resources	Absence of alternative water sources, in-kind contribution, low level of poor	Absence of alternative water sources, presence of wealthy members, comparatively high level of poor
Clearly defined boundaries	Geographic and appropriators' boundaries clearly defined	Geographic boundaries defined, no information about appropriators boundaries	Geographic and appropriators' boundaries clearly defined	Geographic and appropriators' boundaries clearly defined
Social capital	Respect of elders, trust,	Social capital had a significant effect	Respect of elders, trust, local	Respect of elders, trust, local

	local institutions had positive effect for the start-up	in gas project, but no effect in water project	institutions had positive effect for the start-up	institutions had positive effect for the start-up
Capacity building	Improved planning and mobilization skills, ability to elaborate CDP with focus on sustainability	Capacity building had no effect in water project, though it had a positive effect in a gas project	Improved planning and mobilization skills, ability to elaborate CDP with focus on sustainability	Improved planning and mobilization skills, ability to elaborate CDP with focus on sustainability
Leadership	Trust and respect, effective distribution of resources and power	Leadership was successful during the gas project, but failed in water project	Trust and respect, effective distribution of resources and power	Problems arisen at the initial stage were solved by restructuring the IG. Effective distribution of resources and power
<i>Indicators affecting the process of collective action</i>				
Group size	The large size of the group reduced the cost of the contribution per household	The size of the group was not an issue in the gas project, but it was a problem in water project	The large size of the group reduced the cost of the contribution per household	The large size of the group reduced the cost of the contribution per household
Congruence of rules	Rules and fees were elaborated by the Water Committee together with community	The Water organization already existed, no information about agreement of existing rules with the community	Rules and fees were elaborated by the Water Committee together with community	Fixed rules and fees of the public utilities company
Collective choice arrangements	Community was involved in decision making processes	Community was not involved in decision making processes	Community was involved in decision making processes	Community was involved in decision making processes
Monitoring	Overall by the program, internal by the	Overall by the program, internal by the community	Overall by the program, internal by the community	Overall by the program, internal by the

	community and IG	and IG	and IG	community and IG
Social capital	Existence of trust, respect to elders, informal institutions had positive effect to maintain collective action	Social capital had no significant effect in this case	Existence of trust, respect to elders, informal institutions had positive effect to maintain collective action	Existence of trust, respect to elders, informal institutions had positive effect to maintain collective action
<i>Indicators affecting long-endurance and sustainability of the outcome</i>				
Characteristics of the good	Ownership sense built, rules agreed collectively. Public good characteristics may create a risk in the future	Public good, weak ownership sense, no information about rules. Combination of weak incentives and public good characteristics creates a risk for the outcome	Ownership sense built, rules agreed collectively. Public good characteristics may create a risk in the future	Private good, ownership sense built, existed rules
Clearly defined boundaries	Geographic and appropriators' boundaries clearly defined	Geographic boundaries defined, no information about appropriators boundaries	Geographic and appropriators' boundaries clearly defined	Geographic and appropriators' boundaries clearly defined
Congruence of rules	Rules and fees were elaborated by the Water Committee together with community	The Water organization already existed, no information about agreement about existing rules	Rules and fees were elaborated by the Water Committee together with community	Fixed rules and fees of the public utilities company
Collective choice arrangements	Community was involved in decision making processes	Community was not involved in decision making processes	Community was involved in decision making processes	Community was involved in decision making processes
Monitoring	Overall by the program, internal by the community and	Overall by the program, internal by the community and IG	Overall by the program, internal by the community and IG	Overall by the program, internal by the community and

	IG			IG
Graduated sanctions	Sanctions were not used	External enforcement was used towards the community	Sanctions were not used	External enforcement was used towards IG, not community
Conflict resolution mechanisms	Mostly relied on existing informal conflict resolution mechanisms of the community	External power was used to resolve a problem	Mostly relied on existing informal conflict resolution mechanisms of the community	External enforcement was required to reorganize the structure of IG
Minimal recognition of rights	Recognized by local authorities	Recognized by local authorities	Recognized by local authorities	Recognized by local authorities
Social capital	Existence of trust, respect to elders, informal institutions positively effected on sustainability of the outcome	Social capital had no effect in this case	Existence of trust, respect to elders, informal institutions positively effected on sustainability of the outcome	Existence of trust, respect to elders, informal institutions positively effected on sustainability of the outcome
Capacity building	Increased knowledge and skills in community development planning and fundraising	Increased knowledge and skills in community development planning and fundraising	Increased knowledge and skills in community development planning and fundraising	Increased knowledge and skills in community development planning and fundraising

The analysis of cases and table 4 reveals that all four communities have almost the same size of population, number of households and families, and beneficiaries of the project. The existing norms, traditions, formal and informal institutions are also similar in these communities.

Since, Uzbek culture characterized by respect of elders, trust toward these people and significance of their approval in public decision making process, including existing norms and rules, as well as customary institutions (hashar) the performance and role of social capital was the same in all four projects.

The program applied the same approach and set of trainings for capacity building of the community and initiative group in each project. This indicator did not changed across all four cases, except when in Case B additional meetings and trainings were required to increase awareness of people about waterborne diseases and their impact on livelihoods of people.

The performance of indicators like size of the group, clearly defined boundaries, monitoring, graduated sanctions and minimal recognition of rights were similar across all four cases. The impact of these indicators was significant in each project, but similar across cases.

Comparing across cases, the success of collective action in Case A and Case C is characterized by high value placed on water and strong incentives to obtain access to clean drinking water, due to lack of water sources in the community. Lack of water was also important for the success of water project in Case D. On the other hand, in Case B, due to existence of the alternative water source and lack of knowledge of people about waterborne diseases, the value of clean drinking water was low among the population. Thus, incentives of people to build water supply system were also low, which negatively affected the process of collective action in this community.

The value of clean water was high when there was no access to it, like in Cases A, C and D. While in Case B, the value of clean water was low, because the community had access, but lacked knowledge about the quality of water they were consuming. Awareness, through additional trainings and group discussions, contributed to completion of this project.

Another factor that negatively affected incentives of people in Case B is exclusion of community members from decision making process, i.e. the decision to implement water project. The decision was made by the Chairman of MCC without previous discussion and approval from members of the initiative group (IG) and the community. In addition, due to lack of knowledge about water situation within the community, the Chairman did not know about existing artesian well, drilled a few years ago, but due to some reasons had not been connected to water supply system. Therefore, the project proposal was expensive and incorrect, since it was supposed to bring water from another artesian well that was 3 km away from the community.

Summarizing, it can be concluded that incentives and local context, together with collective choice arrangements were important and played a significant role during the initiation and the process of collective action in all four community projects. In addition, the individuals discount rates regarding access to clean drinking water can also vary from case to case. However, the current study does not have enough data to test this hypothesis.

An additional factor that has negatively impacted collective action in Case B is the fact that community recently implemented a gas project; which required financial

and in-kind contributions from the people. Although the gas project was implemented successfully by the same community, the water project failed, because people could not provide additional sources to this initiative, due to short period of time between projects and high level (55%) of low-income families living in this area. At first glance, the in-kind contribution (88.5%) could be seen as incentive for people to cooperate (like in Cases A, C and D), in reality it raised discontents among people, due to extra work caused by incorrect project design.

Another problem with this case, not faced by the others, was that the implementation period of the project coincided with the period when all male population was away in the fields (to work on cotton) or left to other regions for better employment opportunities. Due to the lack of incentives of people to implement the project in Case B, the program had to request a help from local administration to resolve this situation. In this case, local authorities exercised external power towards the community to solve the problem of noncompliance with the agreement.

The monetary contribution was not large in Case B and Case C, which should be a positive effect for incentives of people. A monetary contribution was usually a disincentive for people to cooperate, since it caused a constraint on the households' budget, especially when they are poor. However, in Case A and Case D the monetary contributions ranged from 78% to almost 90%, wherein the level of poor was about 18.5% and 23.5%. Despite these two negative factors, in both cases the projects were successfully completed, due to high value and demand for water. In addition, in Case D where in-kind contribution was very little, due to specifics of the project and location,

the presence of wealthy community members, who agreed to donate some amount of money for the project, was a positive factor that affected success of the collective action.

Another important lesson from the cross case analysis is the role of leadership. The respect and trust towards leadership in Case A and Case C allowed for quickly mobilizing people and launching the project. In addition, in both cases leadership ensured delegation of power and authority among initiative group members. In Case D, there was a problem with delegation of power by the Chairman of the Committee with other members of the initiative group at the beginning. This problem was resolved after involvement of local authorities, which helped to reorganize the group and redistribute duties among members of the initiative group. Reorganization of the group allowed more efficiently launch the work, collect all required community contribution and quickly start the infrastructure project. In Case B, the leadership that ensured transparency of the information and efficient allocation of work among members of the community during implementation of the gas project, has failed to ensure the same approach in water project, which led to failure of the collective action. The main reasons for such failure were exclusion of the community from decision making processes and making the commitment on behalf of the community without prior agreement with them about planned activities.

Summarizing, the indicators mentioned have strong influence on individuals and their decisions regarding participation in collective action and successful start of cooperation process. The importance of property rights of the collective good (in terms

of whether it is public or private good) was not significant during the initiation process of collective action in the project, even though it might have a strong impact on sustainability of the created CPR system in long-term perspectives. In addition, in Case B *coercion* played a significant role for starting-up the implementation process of the project, but this does not characterize successful collective action, because it is supposed to be voluntarily initiated, not externally enforced.

The “design principles” that characterize robustness and long-endurance of CPR system, as well as indicators like *social capital* and *capacity building* performed in these cases in a following way:

- a) Five out of seven design principles were characterized in Case A and Case C. The assumption is that despite of weakness of conflict resolution mechanisms and graduated sanctions towards members with shirking behavior, the factors like respect for elders, existing norms and customary institutions, as well as built capacity of the community can enhance and positively affect them in long-term perspectives.
- b) Only three out of seven principles were present in Case B, which places the created CPR system in a fragile situation. The lack of collective choice arrangements and agreement of appropriators’ rules, weakness of conflict resolution mechanisms and sanctions towards noncomplying members may lead to failure of the cooperation of people in sustaining long-endurance of the CPR system. Factors like respect of elders, existing norms and informal institutions, and

capacity building had positive effects on implementation of the previous project in this community, however they also performed weak in this particular case.

- c) All seven principles were present and characterize robustness and long-endurance of CPR system in Case D. In addition, these principles were enhanced by the presence of local norms and customary institutions, and by program's efforts on capacity building of the community and developing self-confidence in their capabilities.

In general, among all identified indicators the following have direct effect on successful initiation and maintaining of the voluntarily based collective action: *selective incentives, group size, local context, characteristics of the good, clearly defined boundaries, congruence of rules, collective choice arrangement, social capital, capacity building and leadership*. *Coercion* also has a significant effect on collective action, but it does not support the concept that collective action should be voluntary, not enforced.

The design principle together with characteristics of the good, trustworthiness and capacity building help to evaluate long-endurance and sustainability of the project outcome. However, some indicators might have slight different characteristics and effects on collective action in long term perspectives, when they are compared to short-term process of collective action.

Chapter 6: Conclusions, Recommendations and Limitations

6.1. Summary and Conclusion

The results of reviewing case studies of the development agency that used participatory approach in community projects in Uzbekistan, suggest that selected indicators provide relatively clear and good information about their role and impact on success of collective action and sustainability of the outcome. The analysis indicates that the most influential indicator on success of collective action is the presence of incentives of individuals to cooperate and produce the collective good, as well as the degree of importance of that collective good.

As suggested by Meinzen-Dick, DiGregorio, and McCarthy (2004), the collective action should be a voluntary action of a group of people who get together to achieve common goal. Therefore, any coercion or execution of external power used to enforce people to cooperate and act collectively may put in risk the sustainability and long-endurance of the collective good.

In addition, according to findings of the study, property rights (in terms of whether it is public or private good) do not have significant and direct affect on incentives of people to collaborate during the initial process of cooperation. However, they might have significant impact and influence on collective action for sustaining and ensuring robustness and long-endurance of the collective good.

Among other factors affecting collective action, the study found importance of indicators like *local context*, *social capital*, *capacity building* and *leadership*, due to their

strong influence in initial stages and further maintenance of successful collective action. The capacity building in this case requires presence of two complementary elements. First, separate efforts, i.e. trainings and seminars are required to build capacity of people to effectively plan and initiate cooperation process. Second, additional education with focus on sustainability of the collective good and maintenance of the cooperation in long-term perspectives is required.

Although, during the analysis of case studies the “design principles” were used in assessing the success of participatory approach in community projects, the study shows that they are more appropriate for evaluation of robustness and long-endurance of CPR institutions in governing common-pool resources, rather than assessing the success of the collective action process, especially if it is short and one-time occurring collective action. The similar idea can be viewed in works of Mansuri and Rao (2012) who indicated that these principles are focused specifically on common-pool resources management and do not necessarily apply to wider issues of local participatory development.

6.2. Recommendations for Development Organizations

The study provides comparison of different selected indicators affecting the success of collective action and sustainability of the outcome of the project. Understanding of influence of those indicators on process of mobilization of people may help to address problems of collective action arising during implementation of community development projects.

The use of polycentric approach while designing intervention methods and objectives of development projects is important. The combination of various factors and variables may define the success of collective action (Ostrom 2009). The difference between participation imposed by the program or enforced by external authorities, and voluntarily evolved by intrinsically motivated individuals has to be recognized, because this may affect in long-term perspectives on sustainability of the outcome of collective action.

Understanding and inclusion of indicators like local context, social capital, local institutions and capacity building (with focus on short and long-term perspectives) in elaboration process of development projects will help to design an intervention that will properly and adequately address the needs of the community. And last, participation should not be viewed as a goal by the development agency, but rather considered as means to achieve an end. Therefore, the focus should be not on successful implementation, but on sustainability of outcomes of the project.

6.3. Limitations and Suggestions for Future Research

This research contributes to the literature on collective action in community development by identifying important indicators that can be used while studying and analyzing participatory approaches in community development practice, especially if they are related to common-pool resources and creation of CPR systems. While this study identified important indicators for collective action, the findings of the study also suggest several areas for future intervention.

First, the selected indicators may not be suitable to other regions or countries, due to the existence of geographical and cultural limitations. Therefore, further research using the same indicators with projects from other different places may improve reliability and confidence in appropriateness of these indicators for studying and evaluation of collective actions.

Second, all four case studies selected for analyses are related to water problems and creation of water supplying systems. Further research can be done using other types of common-pool resource projects, as well as initiatives related to creation of public goods.

Third, the effect of heterogeneity of the group was not considered and tested during this study. During the analysis of cases, it was revealed that in projects where in-kind contribution was significant, people were more willing to contribute and act collectively in order to produce a collective good. In projects where the size of monetary contribution was significant, the affecting was negative on success of collective action (this project was not included into case study analysis, due to insufficiency of required documents). Although in Case D, the presence of wealthy residents who agreed to share the major part of community contribution, positively affected on incentives of people to cooperate and success of the collective action. Therefore, further research can be done using heterogeneity for assessing impact and affect of this indicator on success of collective action.

Fourth, the impact of the future discount rate on individual's decision regarding participation in the process and success of the collective action can be also reviewed and tested in further researches.

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