American University of Armenia
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Estimation of Direct and Indirect Costs and Benefits Related to Consolidation of Communities of the Republic of Armenia

Yerevan 2013

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Summary

This analysis consists of three parts: (1) an econometric analysis constructs and compares several models, based on data from current Armenian local self-government units. It demonstrates that larger communities are more efficient in terms of revenue. (2) Benefits and costs related to consolidation of communities are computed, based on sample budgets of communities and other data (such as costs of various services, standard salary rates, etc.). (3) Some important qualitative factors and their potential impact in case of consolidation are discussed.

Parts (2) and (3) of the analysis are done in accordance with two scenarios. Scenario 1 assumes that the number of communities in Armenia is reduced from 914[1] to approximately 300. Scenario 2 assumes that the number of communities in Armenia is reduced from 914 to approximately 50. The reform is assumed to take place over the course of three years. The time span of the analysis is ten years.

According to Scenario 1 total benefits of the reform are estimated to be around 50 billion AMD; the total cost of the reform is estimated to be around 38 billion AMD. In the 10-year perspective the benefits outweigh the costs of the reform, generating some 12 billion AMD savings. However, during the course of the reform (three years), the costs outweigh the benefits. Scenario 2 is more costly (41 billion AMD) but generates more benefits (round 81 billion AMD over the course of ten years) resulting in some 40 billion AMD savings.

In terms of qualitative factors Scenario 1 generates less positive spillover effects, at the same time creating fewer risks. Scenario 2 has a stronger capacity to generate positive effects in various aspects of community functioning, but it has a high likelihood of public resistance and poses a number of problems that are harder to ameliorate.

Combining cost/benefit calculations with qualitative analysis, Scenario 1 generates fewer benefits but is less risky. Scenario 2 generates considerably more benefits but is likely to create more controversies, and can negatively affect democracy and representation of certain groups.

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[1] Not counting Yerevan

Contents

Introduction

Armenian Local Government Structures

With the collapse of the Soviet Union, the newly formed Republic of Armenia inherited the administrative-territorial structures of the previous regime. According to the administrative division of Soviet Armenia, the settlements were classified as urban and rural. The area of the Soviet Armenia was divided into 37 administrative regions (Ministry of Territorial Administration, 2013).

The local self-government reforms in Armenia first started in 1995. The National Assembly of the newly independent Republic of Armenia, among other laws related to the country's democratization, adopted the Law on Administrative-Territorial Division of the Republic (ՀՀ Ազգային ժողով, 1995) based on the Article 104 of the Constitution (ՀՀ Սահմանադրություն, 1995) (amended in 2005) by which the units of the administrative-territorial division of the republic are marzes and communities, with marzes composed of rural and urban communities. According to the Law on Administrative-Territorial Division the territory of the Republic of Armenia is divided into ten marzes. The marzes are regulated by territorial administrative units as defined by the RA President's order of May 6 (ՀՀ *նախագահի թիվ 728 հրամանագիր*, 1997). The existing 915 communities in the republic are regulated by the Law on Local Self-Government (The Law of The Republic of Armenia on Local Self-Government, 2002).

Current structure of the communities, in terms of population size is summarized in the Table 1below.

Table 1 RA Communities by population size as of January, 2011

RA Communities by population size range (persons)	Number of communities
100	29
101 - 300	167
301 - 500	76
501 – 1000	169
1.001 – 3.000	324
3.001 – 5.000	71
5.001 – 15.000	55
Over 15.000	22
Yerevan	1
Community of Artsvashen[2]	1
Total	915

Source: USAID/Counterpart International Armenia, 2012

Introduction of the local self-government in Armenia, as one of the state's essential components of decentralization, has laid the foundation for the establishment and institutionalization of the local self-government bodies in the country. However, development and adjustment of local government structures is an ongoing process that is far from complete in Armenia.

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[2] Is not considered as a separate community (Ministry of Territorial Administration, 2013, available at: http://gegharkunik.gov.am/about-communities/278/)

Need for Improvement

According to Freedom House's annual reports on democratization processes for the period of 2005-2010 Armenia's local democratic governance score was 5.50[3]. In 2011-2012 a setback was registered with the score changing to 5.75. Freedom House reports characterize Armenian local governance bodies as often lacking transparency and accountability. Many communities are in need of adequate human resources. Scarcity of local budgets is a key concern, especially for small communities (Nations in Transit, 2012).

Lack of academic studies in the field of Armenian local government makes it difficult to develop clear-cut and objective conclusions about the development of the local self-government bodies in Armenia. Nevertheless there have been a number of reports and strategy analyzing various aspects of functioning of Armenian local government bodies and underlining existing problems in the field.[4] The studies often highlight weak financial capabilities of small communities in particular. Almost half of Armenian communities have 1000 or less residents. Since community budgets are funded by local taxes, such tiny tax-bases make it difficult for most local governments to sustain themselves beyond minimum administrative expenses without significant intergovernmental transfers. Indeed, administrative expenses constitute 77% of community budgets (ՀՀ Կառավարություն, 2011).

Thus, it can be stated that despite the formation of the institutional background of local self-government system in Armenia, the latter still does not function effectively. Most of communities find it challenging to provide up to date and quality services. More often than not they lack necessary financial means to provide such services.

Taking into account the analysis of the existing system on local self-government, and with the aim to contribute to the effective functioning of the system, the Government of Armenia approved the "Concept paper on the Community Consolidation and Establishment of Inter-Community Unions" in 2011 (ՀՀ Կառավարություն, 2011).

Consolidation is a broad term applied to describe the combining of communities or districts in an effort to create administrative efficiencies and provide improved public services and social experiences for residents in sparsely-populated areas. Town and village consolidations are generally viewed from the perspectives of saving money and improving public services. There is a rich international experience of similar reforms and their study can positively contribute to the development and consequent implementation of a more multidimensional and efficient policy solutions. Thus it is worth examining the integration policies of other countries' local governments.

International Experience of Community Consolidation

Estonia

According to the Constitution of the Republic of Estonia the units of local government are rural municipalities and towns. All local issues shall be resolved and

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[3]The ratings are based on a scale of 1 to 7, with 1 representing the highest level of democratic progress and 7 the lowest. The 2012 ratings reflect the period 1 January through 31 December 2011.
[4] See for example USAID and Counterpart Armenia (2012).

managed by local governments, which shall operate independently pursuant to law (*Constitution of the Republic of Estonia*, 1992).

The size of the local-governments in Estonia was dramatically fragmented: 53% of local governments had less than 2,000 populations. Since 1994 all major powers in the parliament have shown their support toward the municipality amalgamation policy. The strategy of Local Government's administrative reform was adopted in 2001.

To support the reform process pilot investigations where conducted to observe selected towns and municipalities by gathering information about facts, problems and public attitudes towards the reform. The findings have shown that by that time existing municipalities experienced limited financial and administrative capacities for fulfilling their tasks (National Association of Local Authorities in Denmark, 1998).

The amalgamation of communities in Estonia was implemented according to the model of territorial amalgamation based on a "voluntary principle". The principle provided a financial grant from the central government calculated for each citizen of a community willing to amalgamate. A financial incentive policy was introduced giving each municipality an equal chance to be amalgamated. Some of the perceived advantages of voluntary amalgamation included a higher quality of municipal services, involvement of municipalities and the population in the process as well as no need to worry about forced amalgamation. The disadvantage of the model is that it was a relatively slow reform process (National Association of Local Authorities in Denmark, 1998). From 1996 to 2005 a total of 49 merging units were amalgamated into 21 new local government units thus making a total number of existing 227 local government authorities in the Republic of Estonia (Estonian Ministry of Interior, 2013).

Currently Estonia is territorially divided into counties, rural municipalities and cities. There are 15 counties and 226 municipalities among which there are 33 cities and 193 rural municipalities. All local governments operate within a county. The size of local governments is very different. The biggest municipality is the capital city Tallinn. Two thirds of local government units have less than 3000 inhabitants (Estonian Ministry of Interior Department of Local Government and Regional Administration, 2005).

Latvia

Latvia's self-government system consists of two levels. The first level is comprised of 525 municipalities including republican, urban, and rural, as well as area municipalities. The area municipalities are the 36 amalgamated units of local government. The second level of self-government system includes 26 district units and 7 republican city municipalities. Thus, cities are represented on both levels simultaneously (Vilka & Vanags, 2008).

The Latvian National legislation provides a wide range of functions for local governments; however the revenues generated on the local level are insufficient for fulfilling the mandatory functions. The division of functions has been a permanent subject of debate within both local and central governments. The main problem of Latvian local government system has been a critical lack of financial resources (Barlow & Wastl-Walter, 2004).

A major administrative-territorial reform on reorganization was considered which provided reduction of local governments to 110, comprising a decrease of approximately 80 units. The reform was carried out by both voluntary and compulsory amalgamations. The creation of bigger regional self-governments with wider functions and own permanent taxes

have been considered as a solution to the existing problems such as functionally and economically weak and too small local government units (Vilka & Vanags, 2008).

Germany

Territorial structure of Germany has been complex since the middle of the 20th century. The composition of states within the country was different. For example, the Northern federal states belonged to what has been called the North European type of local government structures, while the Southern States had a fragmented structure of municipalities, closer to the South European model. During the 1990s East Germany has experienced a territorial reform on amalgamations of municipalities. In the period from 1990 to 2004 Brandenburg reduced the number of its municipalities from 1,793 to 419. The state of Thuringia represents another example of community amalgamation reducing 1,717 municipalities to 1,179 in the period from 1990 to 1996 (Wollmann & Kuhlmann, 2004).

As a result of the two reform waves (in late 1960s and early 1970s) by 2003 the West and East German states had reduced the number of municipalities from 31,000 with an average population of some 2.600, to 12,629 averaging 8.000 inhabitants (Wollmann, 2008).

Slovakia

Slovakia has historically been a highly fragmented local government system. Territorial revision of the country and initiation of the process to establish regional self-government were addressed by Slovak state administration in 1996. The law on the territorial and administrative subdivision of the Slovak Republic defines the municipality as the basis of independent and representative local government (Slovak Republic National Council, 1996).

In 2000 number of municipalities in the Slovak Republic was 2,883. With history as the main determinant, the system of local government represented a highly nonintegrated structure which was one of the most important factors limiting possibilities to transfer responsibilities from the state administration to local self-government (Horváth & Initiative, 2000).

According to the Slovak Ministry of Interior a survey (conducted in 2002) showed that the support for inter-municipality cooperation was highest among fragmented local government units. This indicated that municipalities lacked the capacity to perform certain tasks on their own. The case of Slovakia is interesting in terms of the level of its inter-regional cooperation. As a result of highly fragmented local government units the formation of inter-municipal cooperation became an alternative for effective service provision (Choginyan, 2007).

Inter-municipal cooperation helps municipalities in accumulating resources to provide public services efficiently (Swianiewicz, 2002). Scarcity of financial resources and lack of services and abilities to perform have established a developed system of inter-regional cooperation in Slovakia.

The international experience discussed above shows that amalgamation of communities in each country has had its own specific characteristics. Different principles of community consolidations were chosen depending on a certain case, be it voluntary or forced amalgamation. Different scenarios were applied in amalgamation of communities of various European countries. However community consolidation was seen as an effective measure towards a better community performance.

Methodology

The primary aim of this study is to estimate the direct and indirect costs and benefits related to the community consolidation according to these two scenarios.

As the first step of the research, econometric analysis is conducted to examine factors determining effectiveness of communities' activities. The database includes around 30 variables for 913 communities. The main goal is to empirically assess the likelihood of better performance of larger communities. Demonstrating comparative efficiency of larger communities strengthens provides the basic argument in favor of consolidation, at least from the economic point of view. As the second step of the analysis, a list of potential benefits and costs related to consolidation of communities was compiled. Costs and benefits resulting from consolidation have been classified into two subgroups: quantitative and qualitative. Monetary estimates were computed for quantitative factors, while qualitative factors were discussed in a narrative format. Both quantitative and qualitative were analyzed having in mind two consolidation scenarios.

Possible Scenarios of Consolidation of Communities in Armenia

The need for the reform of the Armenian local government structure has been on the agenda for several years. Both state and non-state actors have been involved in discussions and suggestions pertaining to the possible course and outcome of the local government reform. Experts and NGOs operating in the field have put forward two main policy solutions/policy scenarios.

Scenario 1: The number of existing 914 communities (Yerevan excluded) is reduced to approximately 300.

Scenario 2: The number of existing 914 communities is reduced to approximately 50, generally corresponding to the logic of previous Soviet division.

This study is based on comparison of these two scenarios.

Quantitative factors

Monetary values for items that have been considered as quantifiable[5] in the scope of this study, have been calculated based on the following methodological principles[6].

The numbers and consolidation possibilities of available facilities (administrative buildings, kindergartens etc.) have been considered. If a consolidation results in a reduction of the numbers of units under consideration was deemed possible, cost savings have been calculated. Savings have been classified into two groups: real and projected[7]. Cost calculations were based on the specificity of each item. Estimation of each unit cost was based on a number of sources: typical examples of community financial reports of different

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[5] Appendix 1 presents all cost estimates and formulae

[6] All cost estimates were done according to both scenarios

[7] Savings generated from reduced maintenance costs, having to pay fewer salaries or other such savings that become immediately evident are classified as real savings. Savings generated from reduced need for renovation of buildings, or other such savings that are not immediately evident but occur because there is no need to spend extra money in the future are classified as projected savings.

marzes have been studied[8]; some costs were calculated based on the Methodology of Community Expenditure Policy proposed by the Ministry of Territorial Administration (ՀՀ Տարածքային Կառավարման Նախարարություն, 2013). Statistical data and analyses, reports describing socio-economic condition of the communities, and community budgets have also been used for cost estimation and calculation. The list of quantitative factors included in the cost-benefit analysis, with the corresponding assumptions that have guided the research, is presented in the Table 2 below.

Table 2 Costs and Benefits of Community Consolidation

Benefits		Assumptions/Interpretations
a. Government		
1.	Less number of councilors, smaller staff	The composition of local government staff will be more or less the same eliminating redundant, superfluous, or duplicate positions.
2.	One website in lieu of 3 or 4	All local governments will have a website.
3.	Reduced need for capital renovations and maintenance of municipality buildings	Renovating and maintaining one municipality (town hall) is less costly than doing that with 3 or 4.
b. Culture, sport and recreation		
4.	Capital renovations of cultural centers in smaller communities	One cultural center serving the entire consolidated community would avoid costs associated with renovating one or two others
5.	Cosmetic renovations of cultural centers in smaller communities	One cultural center serving the entire consolidated community.
c. Environment		
6.	Central landfill serving one or a few consolidated municipalities	Consolidated communities will have chance to combine their efforts and share the responsibility in providing the service.

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[8]Examples of such sources include: http://gegharkunik.gov.am/files/comm_docs/4/263/7136.pdf, http://ararat.gov.am/files/comm_docs/2/71/2481.pdf

Immediate costs associated with consolidation	Assumptions/Interpretations
d. General Government	
7. Consolidation will require policy formulation and development of an implementation strategy.	This assumes costs associated with expert services.
8. Conducting case studies of each proposed consolidation before implementation.	Case studies will need to be contracted for professionals to analyze each case independently and in depth
9. Conducting an evaluation of the pilot consolidation case.	Evaluating the pilot consolidation will reveal specific issues and gains that may not have been included in the consolidation checklist
10. Conducting a referendum specific to the communities planned for consolidation.	The RA Constitution requires a referendum for each group of target communities identified for consolidation
11. Conducting elections in newly formed communities.	New local government elections will need to be held before new formed communities will start functioning.
12. Consolidated communities will need larger staff.	Administrative costs of consolidated municipality will increase (salaries, operational costs).
13. Liquidation costs of communities / legal entities being consolidated and discontinued.	Is predicated upon the requirements and provisions of the new policy on consolidation of municipalities.
14. Information campaigns to get buy-in from citizens	Pamphlets, TV shows, press articles, etc. will be considered as part of these campaigns
15. Town hall meetings	Town hall meetings will increase citizen input and create a participatory process
16. Training of municipality staff in different areas of local government management	Training in new skills for managing larger municipalities and for strengthening accountability
17. Renovation/modernization of the consolidated municipality building	Minor renovations and modernization of the new consolidated municipality will be required to enable advancement
18. Creating transition officers or representatives in each of the smaller neighborhoods making up the consolidated community	Having ambassadors that lead change and build community spirit will help in the transition process and acceptance of the consolidated municipality
e. Costs of Upgraded Services	
19. Renovations of cultural houses	As supposed consolidated communities will have one cultural center, therefore their renovation and modernization is required.
20. Public Transport	There will be an increased need for renovated roads, as well as public transport to ensure a proper communication between consolidated communities.
21. Landfills	Current state of landfills is not satisfactory.

Qualitative factors

In the course of this study, in cases when monetary values of consolidation costs and benefits were difficult to calculate or were potentially incalculable, qualitative assessments were developed supported by brief expert comments on possible risks and benefits. The following factors were considered in the qualitative section of the analysis:

- Non-monetary impact of having fewer municipal staff;
- Centralization of procurement;
- Possibility of more/better services provision;
- Improved conditions for farming;
- Increased "distance" between citizens and officials;
- Loss of jobs;
- Public perceptions regarding community consolidation;
- Potentially jeopardized local identities;
- Potential impact on ethnic minorities

Budget-based classification of communities

The effectiveness of providing services is largely dependent on the budgetary expenditure policy of the local self-government bodies. Based on the actual budgetary expenditure performance of the communities (2011), the existing communities of Armenia are grouped into nine categories (ՀՀ Տարածքային կառավարման նախարարություն, 2013). These categories are referred to as "Groups" in the further analysis. See Table 3 for more details on classifying communities into Groups 1-9 based on their budgets.

Table 3 Classification of Communities based on actual budgetary expenditure (2011)

Groups	Total budgetary expenditure (mln. AMD)	Number of communities
1	< 7	216
2	7 – 15	227
3	15 – 30	215
4	30 – 60	151
5	60 – 120	62
6	120 – 250	18
7	250 – 500	17
8	500 – 5000	7
9	> 5000	1
Total		914[9]

Overall, the analysis is aimed at informing decision-making regarding the consolidation of communities in Armenia. Although many of the assumptions and calculations may not apply in specific consolidations, the study serves as a roadmap for study, evaluation and further development of community consolidation policy.

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[9] Table excludes the Community of Artsvashen and includes Yerevan.

Part I: Econometric Analysis

As the first step of the cost-benefit analysis an overall model is constructed and tested, in order to support the argument that larger communities are more efficient, hence it makes sense to consolidate smaller communities to improve their performance. This section of the report presents a short summary of the results; see Appendix for the detailed description of the analysis.

As an indicator of the effectiveness of communities, the following measure was used: *percentage deviation of collected revenues (from the local sources) from their corresponding programmed values at the beginning of the year* (*percentage deviation* for short) as a common indicator of the effectiveness of community administration's activity.

The analysis is based on an econometric model. The database includes around 30 variables for 913 marzes. Information on the budget revenues is for the two consecutive years: 2011 and 2012.

The analysis demonstrates that population size has an impact on the efficiency measure. The model predicts that, other things being equal, if communities are consolidated up to the size 3,000 inhabitants, efficiency (in the sense we define) in budgetary flows will be improved. Nevertheless, the drastic community consolidation may lead to the establishment of inefficient schemes for local revenues due to large information flows human/managerial factor.

Among other variables, the analysis also includes *transparency of the community administration activities* and *role and responsibility of councils*. Both indicators influence community efficiency in terms of collecting revenues. More transparency and more responsibility is linked with better efficiency.

Overall, based on this analysis, it can be stated that consolidation of smaller communities is justified from the economic efficiency point of view.

Part II: Benefit and Cost Calculations

This section of the report includes detailed descriptions of the calculations of benefits and costs associated with the proposed consolidation of communities, according to the two scenarios: Scenario 1 envisions the reduction of communities to approximately 300; Scenario 2 envisions the reduction of communities to approximately 50.

Monetary benefits occur on the level of local government, while costs include expenses both from national and local budgets. The reform is assumed to take place over the course of three years, thus most of the costs associated with it are distributed over these three years, although in some specific cases they are concentrated in Year 1 or spread over longer (up to five years) periods of time. The total time span of the analysis is ten years.

All the calculations are made in an excel file, with the aim of producing a flexible tool, that can be adjusted by end users to modify the estimates, add or exclude components should a necessity arise. The excel files for Scenarios 1 and 2 are submitted with this report.

Standard Rates used in Calculations

Salaries

Two types of standard salary rates were used during the analysis: minimal and average. The minimal gross standard salary with social transfers was estimated to be 37,500 AMD per month (450,000 AMD per year). Average gross monthly salary was estimated at 75,000 AMD per month (900,000 AMD per year).

Buildings

The analysis involves a variety of types and sizes of units that are located in buildings. To simplify it, buildings were grouped into three categories: small (1-3 rooms), medium (5-10 rooms) and large (20 rooms). Three types of costs associated with the buildings were included in the analysis: capital renovation, minor renovation and maintenance costs (electricity, heating, water). Each type of costs per year for small, medium and large buildings was estimated (see *Table 4 Standard Rates, AMD* below) based on sample community budgets.

Table 4 Standard Rates, AMD

Buildings: costs per year			
	Capital Renovation	Minor renovation	Maintenance (electricity, heating, water)
Small (1-3 rooms)	20,000,000	5,000,000	150,000
Medium (5-10 rooms)	30,000,000	10,000,000	300,000
Large (20 rooms)	60,000,000	20,000,000	500,000

Roads

Costs of road repairs were averaged out based on sample community budgets. The costs are estimated at 800,000 AMD per one km of road repair.

Benefits

Government Administration

Reduced need for maintenance of municipality buildings: Real savings

For all those communities that cease to exist there is no need to maintain the municipal building as fully operational. Maintenance costs are estimated to be reduced by two thirds. The standard maintenance rate for a small building (assuming that all dissolving communities are rather small and operate only a small municipal building) is 150,000 AMD. A two-thirds reduction of that is 100,000 AMD per year. Hence, the savings can be calculated as follows:

Scenario 1: Six hundred fourteen dissolving communities multiplied by 100,000 AMD reduced maintenance equals 61,400,000 AMD savings for Year 1; 614,000,000 AMD savings for the total of ten years.

Scenario 2: Eight hundred sixty-four dissolving communities multiplied by 100,000 AMD reduced maintenance equals 86,400,000 AMD savings for Year 1; 864,000,000 AMD savings for the total of ten years.

Reduced need for capital renovations of municipality buildings: Projected savings

The study makes an assumption that there are around 100 small community buildings in need of renovation in communities that will be consolidated. If no consolidation would take place, these buildings would eventually (in the course of next ten years) need to be renovated, which would incur costs. Consolidation means that these buildings will be closed down; hence there is no need for renovation, which leads to projected savings, calculated as follows:

Scenario 1: One hundred buildings multiplied by 20,000,000 AMD (capital renovation of small building) equals 2,000,000,000 AMD savings over the course of ten years; dividing that saving evenly over ten years means that projected savings for Year 1 equals around 200,000,000 AMD.

Scenario 2: same as scenario 1.

Reduced need for minor renovations of municipality buildings: Projected savings

The same logic, as with capital renovation savings, applies in this case. The study makes an assumption that there are about 200 small community buildings in need of minor renovations in communities that will be consolidated. If no consolidation were to take place, these buildings would eventually (in the course of next ten years) need to be renovated, which would incur costs. Consolidation means that these buildings will be closed down; hence there is no need for renovation, which leads to projected savings, calculated as follows:

Scenario 1: Two hundred buildings multiplied by 5,000,000 AMD (minor renovation of small building) equals 1,000,000,000 AMD savings over the course of ten years; dividing that saving evenly over ten years means that projected savings for Year 1 equal 100,000,000 AMD.

Scenario 2: same as scenario 1.

Reduced municipal staff: Real savings

Current staff composition and salary levels were estimated based on the Methodology of Community Expenditure Policy (2013); minimal salary for each position type was taken as the basis of calculation. In reality the salaries vary[10]; hence, generated savings might be even larger. For example, minimal salary for mayors (typical for communities from the Group 1 budget type) was used in these calculations, although mayors from other groups (who have higher salaries) may also lose their positions as well.

Scenario 1: It is assumed that all Group 1 and Group 2 communities and some of Group 3 communities will be dissolved (Total of 614). The list of staff positions to be eliminated and the savings generated as the result are listed in the table below.

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[10] See Appendix 3for more details.

Table 5 List of staff positions to be eliminated and the savings generated as a result (Scenario 1)

	Total positions eliminated	Yearly Salary	Yearly Savings	Total Savings for ten years
Mayor	614	1,200,000	736,800,000	7,368,000,000
Secretary of staff	614	840,000	515,760,000	5,157,600,000
Accountant	614	720,000	442,080,000	4,420,800,000
Cleaning staff	614	150,000	92,100,000	921,000,000
Education, culture and social sphere expert	614	600,000	368,400,000	3,684,000,000
Porter	360	600,000	216,000,000	2,160,000,000
Expert	220	720,000	158,400,000	1,584,000,000
Deputy mayor	180	1,320,000	237,600,000	2,376,000,000
Leading expert	180	960,000	172,800,000	1,728,000,000
Grade 1 expert	180	840,000	151,200,000	1,512,000,000
Computer operator	180	720,000	129,600,000	1,296,000,000
Total			**3,220,740,000**	**32,207,400,000**

Scenario 2: The list of staff positions lost to consolidation and the savings generated as a result are listed in the table below.

Table 6 List of staff positions to be eliminated and the savings generated as a result (Scenario 2)

	Total positions eliminated	Yearly Salary	Yearly Savings	Total Savings for ten years
Mayor	864	1,200,000	736,800,000	7,368,000,000
Secretary of staff	864	840,000	515,760,000	5,157,600,000
Accountant	864	720,000	442,080,000	4,420,800,000
Cleaning staff	864	150,000	92,100,000	921,000,000
Education, culture and social sphere expert	864	600,000	368,400,000	3,684,000,000
Expert	227	720,000	163,440,000	1,634,400,000
Deputy mayor	215	1,320,000	283,800,000	2,838,000,000
Computer operator (Group 3)	215	720,000	154,800,000	1,548,000,000
Leading expert	302	1,200,000	206,400,000	2,064,000,000
Porter (Group 3)	302	600,000	258,000,000	2,580,000,000
Grade 1 expert	151	960,000	144,960,000	1,449,600,000
Grade 2 expert	151	720,000	108,720,000	1,087,200,000
Computer operator (Group 4)	151	840,000	126,840,000	1,268,400,000
Driver	151	840,000	126,840,000	1,268,400,000
Porter (Group 3)	302	720,000	217,440,000	2,174,400,000
Total			**5,186,280,000**	**51,862,800,000**

Creating and Maintaining Less Websites: Projected Savings

If no consolidation takes place, initially there would be a need to create websites for each community, as the 21 century requires online information and transparency. The study assumes that currently very few communities have well-functioning websites; those that do are likely to be large communities, unaffected by the upcoming consolidation.

The cost of creating a website is estimated at 200,000 AMD. The cost of maintaining a website is estimated at 50,000 AMD for the domain annually; plus 500,000 AMD annually for website maintenance by an employee (these estimations are based on consultations with three different professionals in the field in Armenia). Since communities are being consolidated, there is no need to create and maintain websites, which generates projected savings over the longer time perspective.

Scenario 1: Six hundred fourteen dissolving communities multiplied by 200,000 AMD for creating a website equals 122,800,000 AMD savings in ten years. Savings from website maintenance constitute a total of 3,377,000,000 AMD ([50,000 for domain plus 500,000 for maintenance] multiplied by 614 dissolving communities multiplied by ten years).

Scenario 2: Eight hundred sixty-four dissolving communities multiplied by 200,000 AMD for creating a website equals 172,800,000 AMD savings in ten years. Savings from website maintenance constitute a total of 4,752,000,000 AMD ([50,000 for domain plus 500,000 AMD for maintenance] multiplied by 864 dissolving communities multiplied by ten years).

Education
Operating fewer kindergartens (maintenance): Real savings

There are 476 kindergartens operating in Marzes. Assuming 100 kindergartens will be liquidated as a result of merging communities; there is no need to spend money on their maintenance, which results in real savings.

Scenario 1: One hundred kindergartens to be closed down multiplied by 150,000 AMD standard maintenance costs for a small building equals 15,000,000 AMD savings for Year 1; total of 150,000,000 AMD for the ten years.

Scenario 2: same as Scenario 1.

Reduced need for capital renovations of kindergartens: Projected savings

The study makes an assumption that there are about 50 small kindergarten buildings in need of renovation in communities that will be consolidated. If no consolidation would take place, these buildings would eventually (in the course of next ten years) need to be renovated, which would incur costs. Consolidation means that these buildings will be closed down; hence there is no need for renovation, which leads to projected savings calculated as follows.

Scenario 1: Fifty buildings multiplied by 20,000,000 AMD (capital renovation of small building) equals 1,000,000 AMD savings over the course of ten years; dividing that saving evenly over ten years means that projected savings for Year 1 equal 100,000,000 AMD.

Scenario 2: same as scenario 1.

Reduced need for minor renovations of kindergartens: Projected savings

The same logic, as with capital renovation savings, applies in this case. The study makes an assumption that there are about 50 small kindergarten buildings in need of renovation in communities that will be consolidated. If no consolidation would take place, these buildings would eventually (in the course of the next ten years) need to be renovated, which would incur costs. Consolidation means that these buildings will be closed down; hence there is no need for renovation, which leads to projected savings, calculated as follows.

Scenario 1: Fifty buildings multiplied by 5,000,000 AMD (minor renovation of small building) equals 250,000,000 AMD savings over the course of ten years; dividing that saving evenly over ten years means that projected savings for Year 1 equal 25,000,000 AMD.

Scenario 2: same as scenario 1.

Reduced kindergarten staff: Real savings

It is assumed that each of the kindergartens subject to closing down has the following staff: principal, part-time accountant, cook, porter, childcare person and a part-time cleaning staff. The principal's salary is calculated based on the standard average salary; the cook, childcare person and cleaning staff are assumed to have a standard minimal salary; salaries for accountant and porter are estimated to be similar to those included in the calculations of salaries of the municipal staff (see above).

Scenario 1: savings for Year 1 equal 298,500,000 AMD; total savings for ten years equal 2,985,000,000 AMD.

Scenario 2: same as scenario 1.

<u>Culture, Sports and Recreation</u>

Cost savings resulting from reducing the numbers of operational culture houses and libraries are considered in this analysis. Rough estimates of numbers, based on data available for some marzes, are: there about 600 cultural centers and about 700 libraries operating in the regions.

Operating fewer culture houses (maintenance): Real savings

There are about 600 culture houses in Armenia. Assuming 300 culture houses will be closed down as a result of merging communities there is no need to spend money on their maintenance, which results in real savings.

Scenario 1: Three hundred culture houses closing down multiplied by 150,000 AMD standard maintenance costs for a small building equals 45,000,000 AMD savings for Year 1; total of 450,000,000 AMD savings for the ten years.

Scenario 2: There are about 600 culture houses in Armenia. Assuming 400 culture houses will be closed down as a result of merging communities there is no need to spend money on their maintenance, which results in real savings.

Four hundred culture houses closing down multiplied by 150,000 AMD standard maintenance costs for a small building equals 60,000,000 AMD savings for Year 1; total of 600,000,000 AMD savings for the ten years.

Reduced need for capital renovations of culture houses: Projected savings

The study makes an assumption that there are about 100 small culture houses in need of renovation in communities that will be consolidated. If no consolidation would take place, these buildings would eventually (in the course of next ten years) need to be renovated, which would incur costs. Consolidation means that these buildings will be closed down; hence there is no need for renovation, which leads to projected savings, calculated as follows.

Scenario 1: One hundred buildings multiplied by 20,000,000 AMD (capital renovation of small building) equals 2,000,000,000 AMD savings over the course of ten years; dividing that savings evenly over ten years means that projected savings for Year 1 equal 200,000,000 AMD.

Scenario 2: same as Scenario 1.

Reduced need for minor renovations of culture houses: Projected savings

The same logic, as with capital renovation savings, applies in this case. The study makes an assumption that there are about 200 small culture houses in need of renovation in communities that will be consolidated. If no consolidation would take place, these buildings would eventually (in the course of next ten years) need to be renovated, which would incur costs. Consolidation means that these buildings will be closed down; hence there is no need for renovation, which leads to projected savings, calculated as follows:

Scenario 1: Two hundred buildings multiplied by 5,000,000 AMD (minor renovation of small building) equals 1,000,000,000 AMD savings over the course of ten years; dividing that savings evenly over ten years means that projected savings for Year 1 equal 100,000,000 AMD.

Scenario 2: same as Scenario 1.

Reduced library staff: Real savings

The study makes an assumption that most of the libraries will be transferred to schools, or merged with other libraries; the librarian positions of the dissolved libraries will be eliminated. The librarians' salary is estimated at the minimum standard rate. The cost savings are calculated as follows.

Scenario 1: Five hundred librarians multiplied by 450,000 AMD minimal yearly salary equals 225,000,000 AMD savings for Year 1; total of 2,250,000,000 AMD savings for the ten years.

Scenario 2: same as Scenario 1.

<u>**Sanitation and Water**</u>
Maintaining fewer landfills: Real savings

There are 318 landfills (dumping sites) in Armenia (Yerevan excluded). Assume the outcome number of landfills equals to the outcome number of communities, we can calculate the number of landfills that can be liquidated. This is a very moderate reduction of the number of landfills. In fact, the number of landfills in the country can be reduced even further, up to having only a few well managed landfills, but such drastic reduction would need serious investment in creating a countrywide waste management system. Therefore this study took a more moderate approach of assuming each community would maintain one landfill or dump site. The cost of maintenance of one landfill was calculated to be on average 3,600,000 AMD annually based on reviewing the report on Strengthening of Integrated

Waste Management in Armenia (UNDP/Armenia & Ministry of Nature Protection of RA, 2007)and a consultation with an expert. Cost savings are calculated as follows:

Scenario 1: Eighteen landfills to be removed (318 currently existing – 300 outcome communities) multiplied by 3,600,000 AMD equals 64,800,000 AMD savings in Year 1; 648,000,000 AMD savings for ten years.

Scenario 2: Two hundred sixty-eight landfills to be removed (318 currently existing – 50 outcome communities) multiplied by 3,600,000 AMD equals 964,800,000 AMD savings in Year 1; 9,648,000,000 AMD savings for ten years.

Costs

General Government

Costs of creating new laws and policies

Consolidation of rural communities would require a new policy and implementing regulations. Assuming a working group of five people with an average salary of 20,000 AMD per day, working for 60 days, the costs of creating new legal framework is estimated as follows:

Scenario 1: Five people multiplied by 60 days equals 20,000 AMD equals 6,000,000 AMD for the first year of reform.

Scenario 2: same as Scenario 1.

Conducting case studies

The government concept paper envisions conducting case studies for each proposed consolidation before actual implementation. A cost of one consolidation is estimated as a lump sum of 2,000,000 AMD for Scenario 1 and 3,000,000 AMD for Scenario 2, as it envisions amalgamation of more units per consolidation. The costs of conducting case studies are estimated as follows.

Scenario 1: 300 outcome communities multiplied by 2,000,000 AMD per case study equals 600,000,000 AMD total costs. It is assumed that the reform will take place over the course of three years, and the costs are evenly spread, so for Year 1 the costs will be 200,000,000 AMD.

Scenario 2: Fifty outcome communities multiplied by 3,000,000 AMD per case study equals 150,000,000 AMD total costs. It is assumed that the reform will take place over the course of three years, and the costs are evenly spread, so for Year 1 the costs will be 50,000,000 AMD.

Evaluation of the pilot consolidation

The government concept paper envisions piloting the consolidation in one of the marzes and conducting an evaluation of it. The lump sum of such evaluation is estimated to be 10,000,000 AMD for both scenarios.

Cost of informing citizens (pamphlets, TV shows, press articles)

Information campaign will be required to get buy-in from the citizens and ensure a smoother implementation. The information campaign is assumed to make use of flyers, TV shows and newspapers. About 70,000 flyers at the cost of 300 AMD each will be printed. A total of four hours of TV time, at the cost of 150,000 AMD per hour are envisioned. Press

articles in four Armenian newspapers (Hanrapetutyun, Haykakan Zhamanak, Hayots Ashkharh and Golos Armenii) will be printed. One full page in a weekly newspaper costs 80,000 AMD (average). Thus full page article in four newspapers for four weeks is 1,280,000 AMD. The number is rounded down for the final calculation to 1,200,000 AMD. The costs are calculated as follows:

Scenario 1: There is a need for 20,000,000 AMD for flyers plus 600,000 AMD for TV shows plus 1,200,000 AMD for newspaper articles equals 21,800,000 AMD total cost. The total cost is evenly divided between three years during which the reform is supposed to take place. Thus, costs for Year 1 equal 7,266,337 AMD.

Scenario 2: same as Scenario 1.

Town hall meetings

The study assumes that town hall meetings will be used as one of the tools to improve communication and facilitate the reform on the local level. An expert would be bought to a town hall meeting in each community that is to be dissolved, which will incur some per-diem and transportation costs of 20,000 AMD on average. The costs are calculated as follows:

Scenario 1: Six hundred fourteen dissolving communities multiplied by 20,000 AMD for transportation and per-diem equal 12,280,000 AMD total costs. Assuming that the reform will happen over the course of the three years, the costs for Year 1 are one third of the total costs, i.e. 4,093,333 AMD.

Scenario 2: Eight hundred sixty-four dissolving communities multiplied by 20,000 AMD for transportation and per-diem equal 17,280,000 AMD total costs. Assuming that the reform will happen over the course of the three years, the costs for Year 1 are one third of the total costs, i.e. 5,760,000 AMD.

Referendum

According to Government Decree (Nov. 09, 2005) the cost for financing the preparation and organization of referendum for the Amendments to the Constitution of RA on November 27, 2005, was 283,449,091 AMD. Taking into account the level of inflation within these years (2005-3.2; 2006-4.6; 2007-4.2; 2008-6.0; 2009-2.6; 2010-9.2; 2011-4.2) the amount of 394,546,098 AMD (which is round up to 400,000,000 AMD) is estimated if the referendum is to take place now. The number is then divided by two, to take out Yerevan population and population of those communities that are not affected. The costs are calculated as follows.

Scenario 1: Lump sum estimation of 200,000,000 AMD. Assuming that the reform will happen over the course of the three years, the costs for Year 1 are one third of the total costs, i.e. 66,666,667 AMD.

Scenario 2: same as Scenario 1.

Liquidation costs of communities

According to the requirements stated by the Law on State Registration of legal entities, separate units, state institutions and private entrepreneurs, in the event of a liquidation of a legal entity state fee is waged (National Assembly of the Republic of Armenia, 2001). The state fee (liquidation cost) of a community liquidation is estimated to be 10,000 AMD (Data checked with the Ministry of Justice). The costs are calculated as follows.

Scenario 1: Six hundred fourteen dissolving communities multiplied by 10,000 AMD fee equals 6,140,000 AMD total cost. Assuming that the reform will happen over the course of the three years, the costs for Year 1 are one third of the total costs, i.e. 2,046,667 AMD.

Scenario 2: Eight hundred sixty-four dissolving communities multiplied by 10,000 AMD fee equals 8,640,000 AMD total cost. Assuming that the reform will happen over the course of the three years, the costs for Year 1 are one third of the total costs, i.e. 2,880,000 AMD.

Conducting new elections

The study assumes that the current structure of voting districts and precincts will not change. Citizens of enlarged amalgamated communities would still go to vote to the nearby voting location they are registered at. The costs of elections in one community is estimated based on costs of the 1999 countrywide local government elections plus the inflation rate, divided by 915 and rounded up. This is not a cost of conducting elections in one voting precinct. We know how many communities (not how many precincts) will be affected by the reform; therefore what is needed is the cost per community, which is estimated to be around 500,000 AMD. The costs are calculated as follows.

Scenario 1: Six hundred fourteen affected communities multiplied by 500,000 AMD for the cost of elections in one community equals 307,000,000 AMD total cost. Assuming that the reform will happen over the course of the three years, the costs for Year 1 are one third of the total costs, i.e. 102,333,333 AMD.

Scenario 2: Eight hundred sixty-four affected communities multiplied by 500,000 AMD for the cost of elections in one community equals 432,000,000 AMD total cost. Assuming that the reform will happen over the course of the three years, the costs for Year 1 are one third of the total costs, i.e. 144,000,000 AMD.

Transporting equipment and archives from dissolved municipalities

Dissolving communities will have all their usable equipment and archives transported to the municipal buildings of the newly formed communities. A lump sum estimation of costs for gas needed for the transportation and paying the driver and two workers for several hours that are needed to organize a transportation of archives from one dissolving community is estimated at 20,000 AMD for Scenario 1 and 50,000 AMD for Scenario 2 as it involves amalgamation of more units and as a result the traveling distance is likely to be more in many cases. The costs are calculated as follows:

Scenario 1: Six hundred fourteen dissolving communities multiplied by 20,000 AMD per transportation costs equals 12,280,000 AMD total. Assuming that the reform will happen over the course of the three years, the costs for Year 1 are one third of the total costs, i.e. 4,093,333 AMD.

Scenario 2: Eight hundred sixty-four dissolving communities multiplied by50,000 AMD per transportation costs equals42,200,000 AMD total. Assuming that the reform will happen over the course of the three years, the costs for Year 1 are one third of the total costs, i.e. 14,400,000 AMD.

Larger municipality staff for consolidated communities

For Scenario 1 it is estimated that Groups 5-8 will remain unchanged (about 100 such communities), while Groups 1-4 will be amalgamated, resulting in about 200 communities of

Group 4 size. Currently there are 151 Group 4 size communities. This means 50 new Group 4 size communities will be created. For Scenario 2 it is estimated that Groups 7 and 8 will remain unchanged (total 24) and the rest will be amalgamated, resulting in about 30 new communities of Group 6 size. The required staff compositions and salaries are calculated based on the Methodology of Community Expenditure Policy (2013) (see Appendix 3).

Scenario 1: Fifty newly created larger communities will need to hire a second grade expert (monthly salary of 60,000 AMD) and a driver (monthly salary of 70,000 AMD). The costs for Year 1 are 50 new communities multiplied by 12 months x (60,000 AMD expert salary plus 70,000 AMD driver salary) equals 78,000,000 AMD. Total cost for ten years is 780,000,000 AMD

Scenario 2: No costs, because the outcome 50 communities are all large communities that have enough staff, as estimated based on the Methodology of Community Expenditure Policy of RA (2013).

Training for the municipality staff

The municipal staff of the amalgamating communities will need training and re-training. The study assumes that one or two courses (20-22 participants) will be offered, that add up to 30 hours in topics pertaining to local government and municipality functions, such as:

a. Management principles

b. Procurement

c. Accounting

d. Human resource management

e. Community organization

f. Municipal / public services

g. Service quality and satisfaction

Estimated cost per person per training, based on consultations with organizations offering such trainings is 30,000 AMD.

Scenario 1: One hundred communities not affected by amalgamation, 200 are: their staff needs re-training. Assuming all these are Group 4 size type, total staff that needs retraining is (13 staff total, not counting the driver, cleaning personnel and two guards equal 8) 8 multiplied by 200 equals 1600 people. The cost of training and re-training is 30,000 AMD multiplied by 1,600 people equals 48,000,000 AMD total. Assuming that the reform will happen over the course of the three years, the costs for Year 1 are one third of the total costs, i.e. 16,000,000 AMD.

Scenario 2: Staff of all communities except Group 8 needs re-training. Group 5 includes 8 newly created/reformed communities, with 12 staff per community that needs retraining. Group 6 includes 18 newly created/reformed communities with 21 staff per community; Group 7 includes 17 newly created/reformed communities with 35 staff per community. Cost of training and re-training is 30,000 AMD multiplied by 1,069 people equals 32,070,000 AMD total. Assuming that the reform will happen over the course of the three years, the costs for Year 1 are one third of the total costs, i.e. 10,690,000 AMD.

Renovation/modernization of the consolidated municipality building

The study assumes that each new community building will need some upgrade, either in terms of renovation or in terms of better equipment, communication means, etc. The costs are calculated as follows.

Scenario 1: Three hundred buildings of newly created communities multiplied by 20,000,000 AMD (minor renovation of a large building) equals 6,000,000,000 AMD total. Assuming that the reform will happen over the course of the three years, the costs for Year 1 are one third of the total costs, i.e. 2,000,000,000 AMD.

Scenario 2: Fifty buildings of newly created communities multiplied by 20,000,000 AMD (minor renovation of a large building) equals 1,000,000,000 AMD total. Assuming that the reform will happen over the course of the three years, the costs for Year 1 are one third of the total costs, i.e. 333,333,333 AMD.

Transition officers/representatives in the dissolved communities

Local representatives will serve in the dissolved communities for five years (as proposed in the government concept paper). They are assumed to receive an average yearly salary. The costs are calculated as follows.

Scenario 1: Six hundred fourteen dissolved communities multiplied by 900,000 AMD yearly salary equals 552,600,000 costs for Year 1. Total costs for five years equals 2,763,000,000 AMD.

Scenario 2: Eight hundred sixty four dissolved communities multiplied by 900,000 AMD yearly salary equals 777,600,000 AMD costs for Year 1. Total costs for five years equals 3,888,000,000 AMD.

Costs of Upgrading Services

Capital renovations of kindergartens

The study makes an assumption that there are about 100 small kindergartens that will need capital renovation, to allow newly formed communities to provide required services of an adequate quality. The costs are calculated as follows.

Scenario 1: One hundred buildings multiplied by 20,000,000 AMD (capital renovation of small building) equals 2,000,000,000 AMD total costs. Assuming that the reform will happen over the course of the three years, the costs for Year 1 are one third of the total costs, i.e. 666,666,667 AMD.

Scenario 2: same as Scenario 1.

Minor renovations of kindergartens

The study makes an assumption that there are about 100 medium size kindergartens that will need minor renovation, to allow newly formed communities to provide required services of an adequate quality. The costs are calculated as follows.

Scenario 1: One hundred buildings multiplied by 10,000,000 AMD (minor renovation of medium building) equals 1,000,000,000 AMD total costs. Assuming that the reform will happen over the course of the three years, the costs for Year 1 are one third of the total costs, i.e. 333,333,333 AMD.

Scenario 2: same as Scenario 1.

Capital renovations of culture houses

The study makes an assumption that there are about 100 medium size culture houses that will need capital renovation, to allow newly formed communities to provide required services of the adequate quality. The costs are calculated as follows.

Scenario 1: One hundred buildings multiplied by 30,000,000 AMD (capital renovation of medium size building) equals 3,000,000,000 AMD total costs. Assuming that the reform will happen over the course of the three years, the costs for Year 1 are one third of the total costs, i.e. 1,000,000,000 AMD.

Scenario 2: same as Scenario 1.

Minor renovations of culture houses

The study makes an assumption that there are about 200 medium size culture houses that will need minor renovation, to allow newly formed communities to provide required services of adequate quality. The costs are calculated as follows.

Scenario 1: Two hundred buildings multiplied by 10,000,000 AMD (minor renovation of medium building) equals 2,000,000,000 AMD total costs. Assuming that the reform will happen over the course of the three years, the costs for Year 1 are one third of the total costs, i.e. 666,666,667 AMD.

Scenario 2: same as Scenario 1.

Road repairs

Scenario 1: The study assumes that an average of 30 km will have to be repaired in each newly amalgamated community. This assumption is based on the estimations of average differences between settlements. Approximately three communities will now be joined to form one new community. The distances between settlements should not be more than 20 km (according to the government strategy paper). So, on average, two settlements would be about 10 km away from the central settlement and they would be about 10 km apart from each other. This adds up to 30 km per amalgamated community that includes three settlements. The costs are calculated as follows.

Scenario 1: Three hundred newly formed communities x 30 km per community multiplied by 800,000 AMD standard cost of road repair per km equals 7,200,000,000 AMD total costs. Assuming that the reform will happen over the course of the three years, the costs for Year 1 are one third of the total costs, i.e. 2,400,000,000 AMD.

Scenario 2: The study assumes that 50 newly created communities will each consist of about 18 former communities. Assuming each of these 18 communities will need at least 20 km of road repairs to improve commuting, the total amount of roads that needs repairing is 50 multiplied by 18 equal to 18,000 km. Multiplying that by 800,000 AMD standard cost of road repair per km equals14,400,000,000 AMD total costs. Assuming that the reform will happen over the course of the three years, the costs for Year 1 are one third of the total costs, i.e. 4,800,000,000 AMD.

Costs of creating/upgrading landfills

The study assumes that a total of five landfills will be created to fulfill international norms. Consultations with experts suggest that the condition of current damps and landfills is such that their renovation is almost equal to creating a new landfill. The cost of creation and

maintenance of a landfill by EU standards is estimated to be around 5,000,000 EUR or 2,500,000,000 AMD. The costs are calculated as follows.

Scenario 1: Five new landfills multiplied by 2,500,000,000 equals 12,500,000,000 total cost. Assuming that the reform will happen over the course of the three years, the costs for Year 1 are one third of the total costs, i.e. 4,166,666,667 AMD.

Scenario 2: same as Scenario 1.

Part III. Description of Qualitative Factors

The following factors were considered in the course of this analysis without estimating monetary costs/benefits. Some of these can be quantified given more time and resources, while others are not easily turned into monetary equivalents even though they are important to take into account.

Positive Effects
Fewer municipal staff

The study of current situation in Armenian municipalities shows that about 15% of municipal service provisions in Armenia are vacant today because of the lack of qualified personnel (Ghazaryan, 2008). Reducing the number of positions improves the likelihood of filling them. In case there are enough qualified specialists, there will be some competition, resulting in hiring of better quality candidates, provided that transparency and fairness of the process are insured. This increase in quality is likely to occur for both consolidation scenarios, but it is more pronounced for Scenario 2.

More qualified municipal staff

A smaller number of elected seats on local government suggests that more candidates would compete in local government elections, leading to better quality. A more qualified municipality will include experts in different fields, decreasing the need for special expert to be hired by a municipality that arises from time to time. In larger municipalities it is possible to foresee that the quality of individuals working in these positions will bring two positive factors. First, they will be able to develop/present their expertise across a region. Second, they will likely be able to extend their capacities to attend to related problems and eliminate the need to hire specialized experts for a short duration. The number of highly qualified staff is likely to increase for both scenarios, leading to improved quality of local government. However, for Scenario 2 there may be a negative setback, since the amalgamated communities are larger, which means it could potentially be difficult for the experts to have a good grasp of the variety and details of problems occurring across the community.

Centralized procurement is cheaper

Along with the benefits, decentralization of public procurements in Armenia since 2011 also brought several new risks, like communities spending more time and effort while implementing small scale procurements, meanwhile preparing and submitting detailed procurement reports. Consolidated communities will buy larger quantities and goods and services with cheaper prices. In terms of this savings both first and second scenarios are beneficial, the second one being even more so.

More/better services provision

The statutory powers of the local self-government bodies are divided into two categories: a) own (mandatory and voluntary); b) delegated by the state. (Law on Local Self-government, Article 10) State control is exercised over the local self-government bodies by means of administrative control of both own (mandatory and voluntary) and state delegated powers. The mandatory powers are a priority while voluntary powers depend on the availability of additional funding. The state delegated powers are also subject to immediate execution; however these are being financed by the state budget according to a special procedure prescribed by corresponding laws.

The current mandatory powers of communities include provision of functions in the areas such as pre-school education, culture, housing, utilities, and environmental protection. The full provision of services in the above mentioned sectors is quite expensive. Thus, currently many communities fail to provide the services because of lack of resources. At least 84.7% of communities (775) do not incur any costs regarding local mandatory powers (Վահան Մովսիսյան, 2011).

For both scenarios consolidation of communities would contribute to a better implementation of local mandatory powers, would make easier the process of exercising state control over state delegated powers as well as offer an opportunity to provide more services in terms of applying voluntary powers of the local self-government bodies. Examples of improved services may include costly services of veterinarian and control of animals which otherwise would be hard for small communities to afford.

As the result of consolidation both scenarios would lead to improved quality of local government and improved quality of life for citizens as the result. For Scenario 2, there is also an increased potential to assume new services, as larger communities are likely to develop sufficient administrative capacities.

Improved potential for cooperation in farming

Consolidation of community lands and increased pool of privately owned lands per community will lead to improved potential for farmers to cooperate. Positive effects of consolidation would be visible especially on the examples of community lands that are located on bordering parts of communities. In this case more consolidation is likely to generate economies of scale and consequently lead to increase in the volumes of agricultural products.

<u>**Negative effects**</u>

Increased "distance" between citizen and official

Larger communities mean more "distance" (both geographic and political) between the citizen and the official. With consolidation of several settlements into a new amalgamated community local government ties to citizens weaken and needs of small/distant villages might be prone to neglecting. In addition to that both citizens and officials might need to travel further to obtain/provide services. In general, participation may decrease and the development of local democratic structures may be endangered. Above described risks are much higher in case of the second scenario of consolidation.

Loss of jobs

According to first scenario some 5400 jobs are lost, as a result possibility of negative public sentiment increases. There is also a likelihood of decreased income and quality of life for those affected by the loss of jobs. In case of the second scenario some 7900 jobs are lost, which is likely to generate even higher negative public sentiment and decrease in income level and possible decrease in quality of life for those affected.

Public perceptions

One of the risks of the community consolidation is negative perceptions among general population. Public skepticism and artificial barriers against the idea of community consolidation must be taken into consideration. Since citizen participation and opinion plays an important role in the development of local democracy it is of importance to consider the risks related to the citizen dissatisfaction toward the changes in a current system of territorial administration.

According to the survey conducted by Counterpart International Armenian office with community citizens in 2011, 39.3% (1327) of the respondents said they strongly disagree and 20.8% (703) said they disagree with the community consolidation idea (N=3375). The survey data shows that currently the public attitude towards consolidation is rather negative. This is a negative factor for both scenarios, it is particularly pronounced for Scenario 2.

Local identities

Taking into account specificities of Armenian communities and often very strong attachments to certain names, settlements, geographic locations, etc. both scenarios are likely to endanger perceived local identities. Stereotypes about neighboring communities and their inhabitants may hinder the process of consolidation.

In case of the first scenario these risks are rather small and possible to accommodate by careful primary research of consolidated communities. In case of the second scenario risks are very high and almost impossible to accommodate because of the significant increase in the number of consolidated communities.

Ethnic minorities

Ethnic minorities that constitute a majority in their respective communities as a rule feel more secure and able to maintain their ethnic identities. If consolidation leads to a change in ethnic composition of newly amalgamated communities, so that ethnic minorities lose their dominant position in the respective local government structures, there is a very high likelihood of increased feelings of insecurity, sense of jeopardized national identity, fear of violation of ethnic minority rights resulting in an opposition to the reform and dissatisfaction with the government.

Ethnic minorities living in Armenia are mainly concentrated in five marzes: Ararat, Armavir, Aragatsotn, Kotayk and Lori. Primary study of geography and population of communities inhabited primarily by representatives of ethnic minorities shows that consolidation that results in preserving ethnic composition of amalgamated communities is possible only in Aragatsotn. In other marzes consolidation is impossible mostly due to geographic location of the ethnic minorities' communities that are rather dispersed. Based on primary research in Aragatsotn out of 23 communities populated by Ezidis 10 outcome

communities are proposed. Nevertheless, such consolidation is possible only in case corresponding infrastructures are in place and appropriate case studies are conducted.

Generally in Armenia out of 38 communities inhabited by ethnic minorities total of 25 outcome communities are proposed having in mind community consolidation criteria outlined in the RA concept paper on the Community Consolidation and Establishment of Inter-Community Unions (ՀՀ Կառավարություն, 2011, 25).According to the criteria consolidation of communities inhabited by ethnic minorities with Armenian communities or communities inhabited by other ethnic minorities is not considered appropriate.

Thus first scenario of consolidation creates more favorable conditions for representatives of ethnic minorities, while in case of the second scenario consolidation of ethnic minority populated communities with Armenian population communities becomes inevitable. This in turn may have a negative effect on the general sense of protection of ethnic minorities and increase the levels of public disenchantment from the reform.

Additional Considerations
Bordering communities

The border zone of the Republic of Armenia is the wide area of 5km in length from the border line of the republic to its inside part; while part of the border zone that belongs to the state border up to 1 km in width is the boundary layer (ՀՀ օրենքը պետական սահմանի մասին, 2001). Factors such as settlement's location on the marginal zone of the state border of Republic of Azerbaijan and settlement's location on the boundary layers in general are taken into consideration while approving the list of bordering settlements of the republic of Armenia. There are 185 bordering communities in Armenia (ՀՀ Կառավարության օրենքը ՀՀ Սահմանամերձ համայնքների ցանկը հաստատելումասին, 1998).

The security of state is largely dependent on the condition of the bordering communities. Thus close consideration of these becomes essential for the purpose of community consolidation in the republic. Indeed Government's Concept paper on the Community Consolidation and Establishment of Inter-Community Unions indicates the importance of community consolidation in terms of developing and strengthening communities especially in the bordering areas. Special attention is foreseen to be paid to the bordering communities aimed at preventing regional disproportionate development ("ՀՀ Կառավարության ծրագիր," 2012).

If bordering communities are affected by consolidation, the developments could be both positive and negative. If bordering villages' status in the newly amalgamated communities is preserved or even upgraded, that could lead to improve quality of life in those villages. On the other hand, if their status is decreased while new local government hubs are being created nearby, this might create risks of diminishing population in bordering communities as more people would be willing to move to the center of the consolidated community.

Larger/stronger communities lead to better community involvement

One of the important concepts that need be considered when talking about community consolidation or a bigger community is the concept of Big Society. The policy idea of "big

society" was first formulated and introduced by the UK former Prime Minister David Cameron and his deputy Nick Clegg claiming that people in the communities should have more power over planning decisions and engagement with public services (CNN, 2010). The "big society" plays an important role in the policy making processes in the UK. Community activism stands as one of the determinant factors in introducing the concept, claiming that a bigger community contributes to experiencing better opportunities for civic activism and better involvement of the voluntary groups of people. A good example is introduced with the policy strategy of London borough Croydon community: "Building a stronger community represents a progressive shift in power to local people and communities, promoting greater self-reliance and enabling more people to have control over their lives, shaping and delivering better outcomes for themselves and their communities." (Croydon Strategic Partnership, 2011, p.4).

Civil society is one of the fundamental pillars in promoting democracy and good governance. It is critical component that helps to strengthen the basic bonds of trust that are essential to democracy (Putnam, Leonardi, & Nanetti, 1994; Diamond, 1999; Skocpol, 1999; Putnam, 2000). If we consider the idea of community consolidation from the point of view of a bigger society it would contribute to creating opportunities for bigger voluntary groups of people to engage in the community decision making.

Better institutional capacity, increasing community interoperability, raising the effectiveness of services rendered, elimination of additional costs and importantly, creating an opportunity for a better community involvement are the decisive factors advocating a better operation of a bigger community.

Part IV: Comparison of Scenarios

Scenario 1: The number of communities in Armenia is reduced from 914 to approximately 300. Communities with small budgetary capacity (Group 1 and Group 2, see Table 3 on page 30) are being consolidated. Also 180 Group 3 communities are consolidated. As a result, 50 new Group 4 communities are created. Other groups remain unchanged.

Benefits:

Total benefits of the reform are estimated to be around 50 billion AMD over the course of ten years. Of these 39 billion are real savings generated from reduced maintenance costs and fewer salaries, another 11 billion are projected savings generated from reduced need for renovation of buildings. Benefits for Year 1 of the reform are estimated to be 5 billion AMD (4 billion real savings and 1 billion projected savings).

Costs:

According to this scenario, the total cost of the reform is estimated to be around 38 billion AMD (1 billion to be spent from the national budget, 17 billion to be spent from local budgets and 20 to be spent jointly from both sources). The first year of the reform will require 12 billion in spending, assuming that the reform is planned to take place over the course of three years.

Benefit/Cost Ratio:

In the 10-year perspective the benefits outweigh the cost of the reform, generating some 12 billion AMD savings, if both real and projected savings are taken into account. Contrast this with 800 million AMD if only <u>real</u> savings are taken into account, which assumes that during the course of ten years no renovations are done. However, during the course of the reform (three years), the costs outweigh the benefits. The real savings on the level of local government for Year 1 (4 billion AMD) are 80% of what the local governments would have to spend on the reform for Year 1 (5 billion AMD). However, there are costs for the national level budget and those of mixed origin that need to be covered. For Years 2-5 the benefits on the local level outweigh the costs on the local level (16 and 12 billion respectively) so the surplus can be channeled to cover some of the costs of the ongoing reform. See Table 7 below for an overview of the cost/benefit dynamics for the ten years and the attached Excel file for more specific information.

Table 7 Benefits and costs according to Scenario 1

	Year 1	Years 2-5	Total for 10 Years
Benefits (all local government level)	**AMD**	**AMD**	**AMD**
Total	**5,005,420,000**	**20,021,680,000**	**50,054,200,000**
Total Real	3,930,440,000	15,721,760,000	39,304,400,000
Total Projected	1,074,980,000	4,299,920,000	10,749,800,000
Costs			
Total	**12,282,433,333**	**25,794,066,667**	**38,466,500,000**
Total National Costs	385,000,000	738,000,000	1,123,000,000
Total Local Costs	5,303,406,667	11,868,013,333	17,561,420,000
Total National/Local Costs	6,594,026,667	13,188,053,333	19,782,080,000
Cost/Benefit comparison			
Benefits - Cost	-7,205,513,333	-5,486,386,667	12,302,700,000
Benefits - Costs (only real savings included)[11]	-8,280,493,333	-9,786,306,667	1,552,900,000

Scenario 2: The number of communities in Armenia is reduced from 914 to approximately 50. Communities with a small budgetary capacity (Group 1 through Group 4, see Table 3 on page 12) are being consolidated. Also 54 Group 5 communities are consolidated. Remaining Group 5, Group 6 and Group 7 communities are reformed to include the dissolved communities. Group 8 communities remain unchanged.

Benefits:

The total benefits of the reform are estimated to be around 81 billion AMD over the course of ten years. Of these, 68 billion AMD are real savings generated from reduced maintenance costs and fewer salaries Another 12 billion AMD are projected savings generated from the reduced need for renovation of buildings. Benefits for Year 1 of the

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[11]Savings generated from reduced maintenance costs, having to pay fewer salaries or other such savings that become immediately evident are classified as real savings. Savings generated from reduced need for renovation of buildings, or other such savings that are not immediately evident but occur because there is no need to spend extra money in the future are classified as projected savings.

reform are estimated to be 8 billion AMD (7 billion real savings and 1 billion projected savings).

Costs:

According to this scenario, total cost of the reform is estimated to be around 41 billion AMD (8 billion AMD to be spent from the national budget, 13 billion AMD to be spent from the local budgets and 27 billion AMD to be spent jointly from both sources). The first year of the reform will require 13 billion AMD spending, assuming that the reform is planned to take place over the course of three years.

Benefit/Cost Ratio:

In the ten-year perspective the benefits outweigh the cost of the reform, generating some 40 billion AMD savings, if both real and projected savings are taken into account (28 billion AMD if only real savings are taken into account, i.e. assuming that during the course of ten years no renovations are done). During the first year of the reform, the costs outweigh the benefits both in terms of real and projected savings. The real savings on the level of local government for Year 1 (7 billion AMD) are enough to cover local government costs (4 billion AMD) and some of the mixed budget costs for the first year of the reform, however the national level budget costs (286 million AMD) and some of mixed origin costs will need to be provided for. For Years 2-5 the reform continues to incur costs (300 million AMD) if only real savings are taken into consideration when computing the cost/benefit ratio. However, if projected savings generated from the forgone need to carry out renovation projects are taken into account, benefits from this scenario are visible in the earlier stage. See Table 8 below for an overview of the cost/benefit dynamics for the ten years and the attached Excel file for more specific information.

Table 8 Benefits and costs according to Scenario 2

	Year 1	Years 2-5	Total for 10 Years
Benefits (all local government level)	AMD	AMD	AMD
Total	**8,053,460,000**	**32,213,840,000**	**80,534,600,000**
Total Real	6,835,980,000	27,343,920,000	68,359,800,000
Total Projected	1,217,480,000	4,869,920,000	12,174,800,000
Costs			
Total	**13,071,930,000**	**27,647,060,000**	**40,718,990,000**
Total National Costs	286,666,667	521,333,333	808,000,000
Total Local Costs	3,794,880,000	9,144,960,000	12,939,840,000
Total Shared National/Local Costs	8,990,383,333	17,980,766,667	26,971,150,000
Cost/Benefit comparison			
Benefits - Cost	-5,018,470,000	4,566,780,000	39,815,610,000
Benefits - Costs (only real savings included)	-6,235,950,000	-303,140,000	27,640,810,000

A number of qualitative factors were also considered in the course of the analysis. Their possible impact for both scenarios is shortly summarized in the *Table 9* below.

Table 9 Qualitative factors affecting consolidation

Factor	Short description	Scenario 1	Scenario 2
Positive Effects			
Fewer municipal staff	Higher likelihood of filling current vacant positions; competition leading to better quality	Improved quality of local government operation	Even more improved quality of local government operation
More qualified municipal staff	Larger communities are served by more staff which includes experts in different fields.	Improved quality of local government, potential cost savings	Improved quality of local government and potential cost savings if there are enough experts to serve the large community
Centralized procurement is cheaper	If you buy in large quantities, there are savings, whether it is office supplies for municipal buildings or purchasing road repair services.	Cost savings	Larger cost savings
More/better services provision	Larger revenue base and better managed municipality is able to offer more public services than before.	Improved quality of local government, improved quality of life for citizens	Improved quality of local government, improved quality of life for citizens, improved potential to assume new services
Improved farming	Consolidation of community lands and increased pool of privately owned lands per community leading to improved potential of farmers cooperating	Potentially more productive farming	Potentially more productive farming;
Negative effects			
Increased "distance" between citizen and official	Larger communities mean more "distance" (both geographic and political) between the citizen and the official. Local government ties to citizens weaken, needs of small/distant villages might be neglected, both citizens and officials might need to travel further to obtain/provide services	Smaller risk, easier to ameliorate	Greater risk, harder to ameliorate
Loss of jobs	As a result of community consolidation overall number of public jobs will decrease	Some 5400 jobs lost, negative public sentiment, decreased income and likely decreased quality of life for those affected	Some 7900 jobs lost, negative public sentiment, decreased income and likely decreased quality of life for those affected
Public perceptions	Negative attitude towards the reform	High risks	Very high risks
Local identities	Local identities perceived as endangered. Stereotypes about neighbors hindering consolidation	Small risks, possibility to accommodate	Very high risks, almost impossible to accommodate
Ethnic minorities	Ethnic minorities feeling less secure if they were a majority in a current community but would become a minority in newly formed community	Small risks, possibility to accommodate	Very high risks, almost impossible to accommodate

Summarizing the projected positive and negative outcomes for the two scenarios, it can be said that the Scenario 1 generates less positive spillover effects, at the same time posing less risks. Scenario 2 has a stronger capacity to generate positive effects, cost savings and economies of scale in various aspects of community functioning, but it is also the scenario that has high likelihood of public resistance and poses a number of problems that are harder to ameliorate.

Overall Assessment of Direct and Indirect Costs and Benefits

Combining cost/benefit calculations with the qualitative analysis of the above mentioned factors, it can be stated that Scenario 1 generates less benefits but is less risky and will meet less public resistance. Scenario 2 generates considerably more benefits but is likely to create more controversies, and can negatively affect democracy and representation of certain groups, such as ethnic minorities.

Conclusions and Recommendations

The study shows that community consolidation is beneficial from the economic efficiency point of view. Scenario 1 (reducing the number of communities to approximately 300) is assessed as less risky as opposed to Scenario 2 (reducing the number of communities to approximately 50) at the same time it creates less net benefits.

However, in planning consolidation, further and more detailed evaluation of scenarios requires a study of current condition of communities, level of infrastructure development, the land tenure structure that includes vast numbers of small and fragmented farms etc. In general, identification, evaluation and prioritization of community related issues are needed. Any effort to enhance the quality of rural life and therefore any alternative scenario of community consolidation must combine improvements to agricultural production, employment, infrastructure, housing and the protection of natural resources. Any effort in reform must acknowledge the complexities involved in consolidation. Where such a complex approach is missing community consolidation in Armenia may bring a number of negative and even pernicious consequences such as decrease in the level of local democracy development, population flows to the central community or to the capital, as well as deepening public disenchantment and skepticism towards the reforms. A complex approach also means that consolidation of specific communities must consider such issues as: (a) the types of services the merged government should provide; (b) property tax rates in the new government; (c) laws that will regulate structural changes in the new government; (d) the manner in which the government will deal with debts and assets; etc.

The study of the two scenarios of community consolidation also revealed that for the achievement of the best results it would be preferable to rely on multiple criteria, not only on geography, population size, ethnic composition of the community, local identities, but also budgetary capacities of the communities.

Based on the research conducted, the following recommendations can be made:

- As the number of local government positions decreases with consolidation, the staff reduction can be used as an opportunity to improve the overall quality of personnel. Therefore it is recommended that the communities seek the best and most qualified cadres of employees. Where possible staff should be retained through a process of fair and competitive hiring and re-hiring of municipal and other staff of amalgamated communities.

- In the process of consolidation many buildings/facilities (i.e. town halls, culture houses and kindergartens) will be emptied. It is recommended that careful planning take place for further utilization of these buildings. They can be sold, rented out or otherwise used with profit. They could also be used for community needs, such as providing living space for those in need. Alternatively, because of their old age and extremely poor condition they might need to be demolished, which will incur additional costs.

- Repair and maintenance of roads between consolidating communities should be given a high priority. Successful functioning of amalgamated communities heavily depends on possibility of easy and affordable commuting. Ways to boost public transportation systems should also be considered.

- Communication systems of amalgamated communities (landline phones, mobile phones, and internet) should be present and functioning in all settlements.

- Bordering villages should be given special attention when planning consolidation. Their public facilities (such as kindergarten, school, cultural center etc.) should be maintained and even upgraded where possible. Special attention should be paid to improvement of infrastructure (roads, water system, electricity, communication). Possibilities of making bordering villages the centers of newly amalgamated communities should be considered.

- For larger amalgamated communities quotas for elected officials should be considered to ensure representation of diverse interests and to alleviate fears of smaller groups/villages of being neglected by the majority of the new community.

- A broad public awareness campaign and involvement of public organization in the process of policy formulation to avoid public disenchantment and possible political ventures around the issue should be initiated. Organization of town hall meetings and open discussions with people organized in all communities that are subject to consolidation will become essential. It will be important to highlight positive consequences of the changes such as consolidation of human resources, infrastructures and services which would positively result in the efficiency of service delivery, increase in financial capabilities thus leading to the expansion and improvement of local powers and duties. It would be helpful highlight that the costs are going to be incurred for the period of three to four years, whereas the benefits will be felt for decades.

- The implementation of reform very much depends on leadership on many levels of national and local government. Those involved in the implementation need to be able to acknowledge the challenges as well as actively and openly cooperate in search of most beneficial solutions. Leadership capacity of those guiding the implementation can be strengthened by providing them with relevant information and trainings.

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Appendix 1 and Appendix 2

Please see attached Excel sheets.

Appendix 3

Classification of Communities based on actual budgetary expenditure (A) and Composition of Community Personnel per Group (B)

Table 10 (A) Classification of Communities based on actual budgetary expenditure (2011)

Groups	Total budgetary expenditure (mln. AMD)	Number of communities
1	< 7	216
2	7 – 15	227
3	15 – 30	215
4	30 – 60	151
5	60 – 120	62
6	120 – 250	18
7	250 – 500	17
8	500 – 5000	7
9	> 5000	1
	Yerevan	1
Total		**914**[12]

(B) Composition of Community Personnel per Group based on actual budgetary expenditure suggested by the Methodology of Community Expenditure Policy (Ministry of Territorial Administration, RA, 2013).

Table 11 Composition of Community Personnel per Group

Position title	Personnel unit	Rate (AMD)	Annual amount (AMD)
Group 1			
Political and discretionary positions			
Community head	1	100,000	
Community service positions			
Personnel secretary	1	70,000	
Finance officer-accountant	1	60,000	
Technical support personnel			
Cleaner	1	25,000	
Service personnel			
Education, culture and social sectors' specialist	1	50,000	
Total	4.5	305,000	3,660,000
Group 2			
Political and discretionary positions			
Community head	1	120,000	
Community service positions			
Personnel secretary	1	80,000	
Financier-accountant	1	70,000	
Specialist	1	60,000	

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[12] Table excludes the Community of Artsvashen.

Technical support personnel			
Cleaner	1	30,000	
Service personnel			
Education, culture and social sectors' specialist	1	60,000	
Total	5.5	420,000	5,040,000

Group 3

Political and discretionary positions			
Community head	1	140,000	
Deputy community head	1	110,000	
Community service positions			
Personnel secretary	1	100,000	
Finance officer-accountant	1	90,000	
Leading specialist	1	80,000	
1-st class specialist	1	70,000	
Technical support personnel			
Computer operator	1	60,000	
Cleaner	1	50,000	
Porter	1	50,000	
Total	10	740,000	8,880,000

Group 4

Political and discretionary positions			
Community head	1	160,000	
Deputy community head	1	125,000	
Community service positions			
Personnel secretary	1	120,000	
Finance officer-accountant	1	110,000	
Leading specialist	2	100,000	
1-st class specialist	1	80,000	
2-nd class specialist	1	60,000	
Technical support personnel			
Computer operator	1	70,000	
Driver	1	70,000	
Cleaner	1	60,000	
Porter	1	60,000	
Total	13	1,175,000	14,100,000

Group 5

Political and discretionary positions			
Community head	1	190,000	
Deputy community head	1	150,000	
Community service positions			
Personnel secretary	1	140,000	
Finance officer-accountant	1	130,000	
Leading specialist	3	120,000	
1-st class specialist	2	100,000	
2-nd class specialist	2	80,000	
Technical support personnel			
Computer operator	1	80,000	
Driver	1	80,000	
Maintenance administrator	1	80,000	

Cleaner	1	70,000	
Porter	2	70,000	
Total	17	1,780,000	21,360,000

Group 6

Political and discretionary positions			
Community head	1	210,000	
Deputy community head	1	170,000	
Community head assistant	1	90,000	
Community service positions			
Personnel secretary	1	160,000	
Department head	3	150,000	
1st class leading specialist	3	130,000	
2nd class leading specialist	4	120,000	
1st class specialist	3	100,000	
2nd class specialist	3	80,000	
Technical support personnel			
Computer operator	1	80,000	
Driver	1	80,000	
Maintenance administrator	1	80,000	
Cleaner	1	70,000	
Porter	2	70,000	
Total	26	2,940,000	35,280,000

Group 7

Political and discretionary positions			
Community head	1	230,000	
Deputy community head	1	180,000	
Community head adviser	1	160,000	
Community head assistant	1	110,000	
Community service positions			
Personnel secretary	1	170,000	
Department head	5	160,000	
1-st leading specialist	5	140,000	
2-nd leading specialist	6	130,000	
1-st class specialist	6	120,000	
2-nd class specialist	6	100,000	
Technical support personnel			
Computer operator	2	100,000	
Driver	1	100,000	
Maintenance administrator	1	80,000	
Cleaner	2	70,000	
Porter	3	70,000	
Total	42	5,180,000	62,160,000

Appendix 4

Assessment of the Effectiveness of Community Activities

For the evaluation of possible economic consequences of the community consolidation, it is of primary importance to reveal effectiveness of the factors that condition their activities. As an indicator of the effectiveness, we suggest the following measure: *percentage deviation of collected revenues (from the local sources) from their corresponding programmed values at the beginning of the year.*

Higher (positive) values of deviation reflect community's effective operation (on behalf of the community administration). The potential weakness of this indicator is in that the communities, whose budget targets are set low on a regular basis, will demonstrate high efficiency. In order to learn whether there is such evidence, we explore the distribution of *the percentage deviation between current targets of local revenues and their actual values from the previous year.* If taking communities with percentage deviation not exceeding 100% (865 communities), the percentage deviation for these communities is +3%, which means that in average communities' revenue targets are higher than actual revenues, they observe at the moment of prediction. If the selection comprises the communities with up to 3,000 citizens, the deviation is +8.115%. This indicates that smaller communities strive for a better/higher guidelines for themselves. For the communities with 2,000 and 1,000 population indicated values are 8.74% and 9.27%, respectively. By conducting analysis for each marz, as well as for settlements bordering Georgia and/or Azerbaijan, no regular deviation is reported from the main trend. In other words, communities task themselves to generate higher budget revenues from local sources, compared to what they experienced in the previous year. This argument allows to consider **the community budgets' percentage deviation between the actual and programmed values of current year from the local sources** (*percentage deviation* for short) as a common indicator of the effectiveness of community administration's activity.

Table 12 Linear regression model results: Model is assessed by the method of least squares

Asterisks reflect the corresponding levels of significance *** - 1%, ** - 5% and ** - 10%

Independent variables	Model 1. Primary	Model 2. Up to 3,000 population	Model 3. Up to 2,000 population	Model 4. Up to 1,000 population
Percentage deviation, 2011 (%)	0.093*** (.014)	0.118*** (.0178)	0.126*** (0.022)	0.129*** (0.029)
Population (100 people)	0.067** (0.029)	0.816*** (0.2777082)	0.801* (0.473)	0.601* (0.317)
Population squared	-0.000064** (0.0000261)	-.0186** (0.009)	-0.014 (.0246)	
Administrative area, km^2	-.0003 (0.00022)			
Distance from marz center, km	-0.094** (0.047)	-.0947302*** (.0344928)	-0.101*** (.0366)	-0.136*** (0.044)
Georgia bordering marz (=1)	-3.055** (1.327)	-2.78087** (1.297508)	-2.719* (1.393)	

Azerbaijan bordering marz (=1)			4.182* (2.445204)	7.053863** (3.023981)
town=1, village=0	-7.408** (3.448)			
2011 Internal sources income and total income ratio, %	-15.669*** (4.215)	-10.87127*** (3.975623)	-9.465** (4.341)	-7.357 (4.938)
The role of the council and responsibility index (high=1, low=0)	7.690*** (1.530)	4.764152*** (1.395356)	4.823*** (1.404)	4.867*** (1.617)
Community activity transparency index (high=1, low=0)	0.217** (0.109)	0.2558132** (0.1016249)	0.188** (0.095)	0.322*** (0.113)
Adjusted R^2	0.1619	14.878	0.1627	0.1381

Current analysis is based on an econometric model. Variables that exist in our database and explain the percentage deviation are in Column 1, Table 12. The remaining 4 columns report outcomes of 4 models, each selecting communities within a specified segment of population.

Decisions for the previous year are somewhat extended to the decisions of the current/ongoing year and, in order to consider this trend, in all the versions of the model the previous value of percentage deviation is included in the model. It turns out that only 10% of deviation between the communities' programmed and actual activities are explained by the corresponding indicator.

Dependence from the lagged value is stronger for smaller communities. This can be explained by the fact that smaller communities use less information for their programmed indicators which is also reflected in bigger standard deviation of the error term.

Also, as opposed to the smaller communities, big ones are prone to apply the impact of external factors and, as a result, the dependence from the previous year's value gets weaker. These coefficients remain stable when adding/contracting number of explanatory variables.

Graph 1 Linear regression model results: Model is assessed by the method of least squares
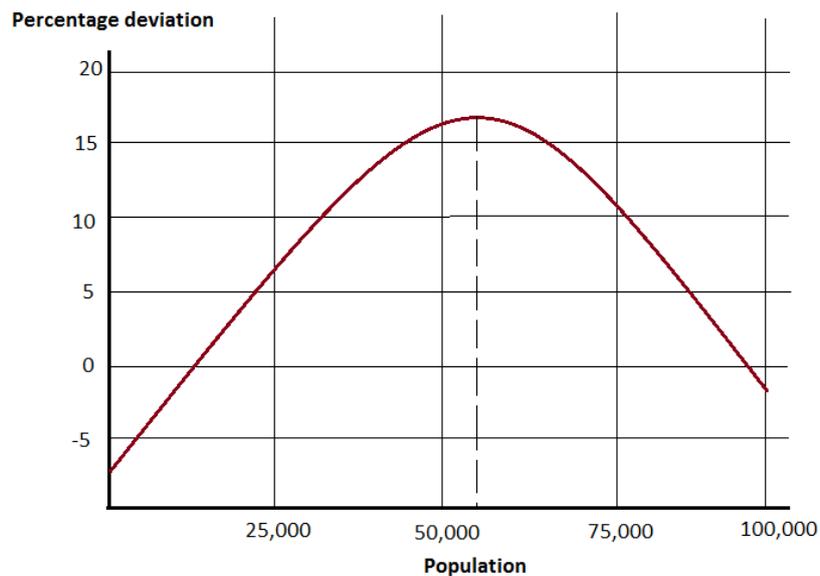
Population size has a positive impact on the efficiency measure up to a certain value, then the sign changes. If there is no upper limit of the community population (model 1), then

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the optimal level of percentage deviation is 16-17%, which corresponds to a community with population of 55.000 (*Graph 1*).

Graph 2

It can be seen from Graph 2 that for a community less than 3,000 inhabitants the maximum deviation value is around -2.3, in the case of community with 24,000 population (model 2), which is out of the discussed borderline**. Other things being equ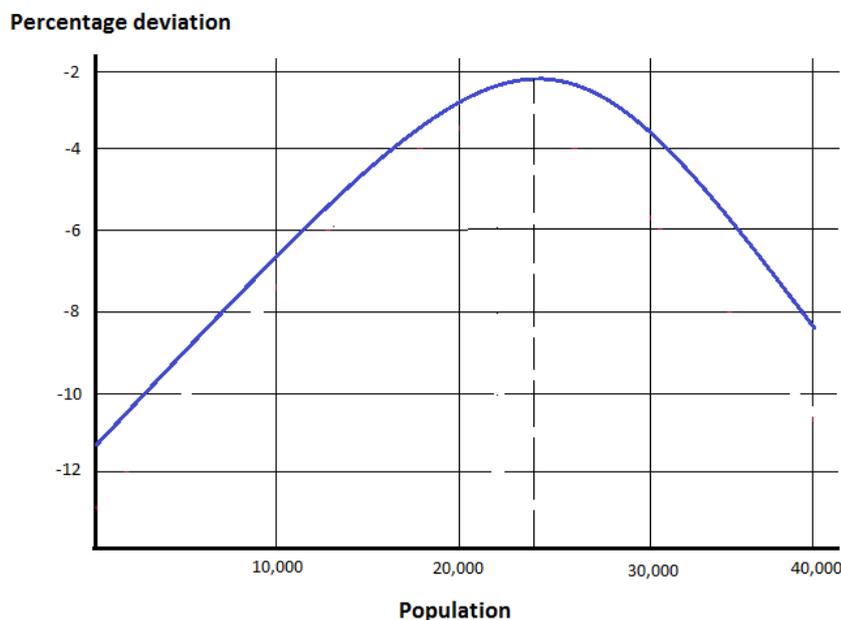al, if communities are consolidated up to the size 3.000 inhabitants, efficiency (in the sense we define) in budgetary flows will be improved.** Nevertheless, the drastic community consolidation may lead to the establishment of inefficient schemes for local revenues due to large information flows human/managerial factor. For communities up to 2.000, and especially those with no more than 1.000 inhabitants the sharp increase of population does not lead to a decrease in percentage deviation.

A larger size of the administrative area prevents optimal programming. However, the evidence is not preserved for smaller communities.

Marzes bordered with Georgia are in average less effective in revenue collection. These marzes are: Shirak, Lori and Tavush, where actual collection is lower than programmed by 2.7-3% percentage point. Interestingly enough, in Azerbaijan bordering marzes smaller communities are more successful in actual revenue collection. Especially, the communities with the population up to 1,000 the revenue collection level is higher by 7 percentage points.

In towns actual revenue collection is lower than the programmed value by 7.4%, which is interesting, as information flows and human factor have already played their role in town communities.

Our research shows that the ratio of revenues from the local sources and the total revenues, both for the previous year (2011), has a significant impact on the explained variable. If in the previous year there has been a 1% ratio increase, for example from 0.3% to 0.31%, this leads to a decrease in explained variable from 0.15% to 0.07%, depending on the sample of communities (classified by the upper limit of the population size).

The next two factors reflect *transparency of the community administration activities* and *role and responsibility of councils*. Both indicators have decisive influence. A positive level of council's role and responsibility (=1) improves the explained variable from 7% to 4%; while a positive transparency index causes improvement by 0.3% to 0.2%, both depending on the size of the community. There are 4 underlying indicators for the transparency index, and 2 variables for the responsibility index[13].

Discussion of results Analysis and Community Consolidation Policy

To what extent are the above mentioned results reliable? Our database includes around 30 variables for 913 marzes. Information on the budget revenues is for the two consecutive years: 2011 and 2012. This means that the database includes around 40.000 data points, which is a sufficiently large number. From this database the above mentioned variables have been carefully selected to explain our efficiency measure. Naturally, it is possible to choose/create other indicators and evaluate corresponding models that will complement the existing one. For example, taking the level of revenue collection per capita as an explanatory variable and revealing causal factors (by regression analysis), we may compare the implied outcome with the existing model. As a result the conclusions would be clearer and addressed. The model evaluated in this research for the communities of different sizes can be helpful in developing community consolidation policy. In particular:

- We found that economies of scale exist for bigger communities. They operate for the communities up to 50,000 – 55,000 population. This level, as well as the -7.4 percentage point loss for towns/cities, convey warning that larger communities (Gyumri, Vanadzor and Hrazdan) should be treated differently, when introducing community consolidation schemes. There is some probability that this group involves also cities belonging to the second largest group (Etchmiadzin, Kapan, Abovyan etc.)

- The following issue (and more of this type) can be analyzed within the framework of this model: Assume there is no council room in the communities that are subject to consolidation, and as a result of consolidation the community will have this room without incurring any additional costs. If the cost of this room is 3,000,000 AMD and each year maintenance cost is 500,000 AMD, then the direct revenue generated from savings for the first N years is:

$$S = \frac{3,5\ mln(1 + rd_1)}{1 + i_1} + \frac{500,000(1 + rd_2)}{1 + i_2} + \cdots + \frac{500,000(1 + rd_N)}{1 + i_N}$$

  where rdj and ij are deposit and inflation rates in year j. The fact that a community was consolidated and has a council room, other things being equal, leads to actual increase of revenues compared to programmed by 7.690%. In order to assess the overall benefit, assume community tends to collect 10mln AMD from internal sources and actually collects 10,5mln AMD. As a result of community consolidation 5+7.690=12.690% increase is demonstrated instead of 5%, which means 769,000 AMD additional resources will be available for the first year. If consolidation takes place among settlements with population no larger than 3000, additional revenues will amount to 476,641 AMD. Then,

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[13] Community budgets, Ministry of Territorial Administration, 2013, available at:
http://www.mta.gov.am/hy/budgetary-performance/

based on the above mentioned formula, it is possible to calculate indirect revenues for the first N years.

- The advantage of applying the model is that it reflects the relationship of the variables in general equilibrium and allows to explore the mere (as well as ultimate) impact of a factor of interest, when all other factors are kept fixed. A more in-depth and comprehensive study based on existing database would enable to project different scenarios for community consolidation, taking into account various community factors and involving community budget expenditure indicators.

Appendix 1.1 Cost Benefit Calculation of Amalgamation of Communities according to Scenario 1

Current number of communities	**914**
Outcome number of communities	**300**
Number of "dissolved" communities	**614**

Cost Savings from

Item	No of Units	Unit cost	Saving year 1	Savings years 2-5	Total savings for 10 years	Budget Source	Type of expense	Notes
Government Administration								
Reduced need for maintenance of municipality buildings	614	100,000	61,400,000	245,600,000	614,000,000	Local	Real	For all those communities that seize to exist there is no need to maintain the municipality building fully operational. Maintenance costs are reduced by 2/3
Reduced need for capital renovations of municipality buildings	100	20,000,000	200,000,000	800,000,000	2,000,000,000	Local	Projected	Assume about 100 small community buildings would need renovation. Closing down => no need for renovation
Reduced need for minor renovations of municipality buildings	200	5,000,000	100,000,000	400,000,000	1,000,000,000	Local	Projected	Assume about 200 small community buildings would need renovation. Closing down => no need for renovation
Reduced municipal staff								Assume all Group 1 and Group 2 communities and some of Group 3 communities will be dissolved.
Mayor	614	1,200,000	736,800,000	2,947,200,000	7,368,000,000	Local	Real	Current salary for a small (group 1) mayor is 100,000 per month. Assume all dissolved communities are small
Secretary of staff	614	840,000	515,760,000	2,063,040,000	5,157,600,000	Local	Real	Current salary for a small (group 1) community staff secretary is 70,000 per month. Assume all dissolved communities are small
Accountant	614	720,000	442,080,000	1,768,320,000	4,420,800,000	Local	Real	Current salary for a small (group 1) community accountant is 60,000 per month. Assume all dissolved communities are small
Cleaning staff	614	150,000	92,100,000	368,400,000	921,000,000	Local	Real	Current salary for a small (group 1) community cleaning staff is 20,000 per month part time. Assume all dissolved communities are small
Education, culture and social sphere expert	614	600,000	368,400,000	1,473,600,000	3,684,000,000	Local	Real	Current salary for a small (group 1) community expert is 50,000 per month. Assume all dissolved communities are small
Expert	220	720,000	158,400,000	633,600,000	1,584,000,000	Local	Real	Group 2 communities have this position. Assume 220 such communities will be dissolved
Deputy mayor	180	1,320,000	237,600,000	950,400,000	2,376,000,000	Local	Real	Group 3 communities have this position. Assume 180 such communities will be dissolved
Leading expert	180	960,000	172,800,000	691,200,000	1,728,000,000	Local	Real	Group 3 communities have this position. Assume 180 such communities will be dissolved
Grade 1 expert	180	840,000	151,200,000	604,800,000	1,512,000,000	Local	Real	Group 3 communities have this position. Assume 180 such communities will be dissolved
Computer operator	180	720,000	129,600,000	518,400,000	1,296,000,000	Local	Real	Group 3 communities have this position. Assume 180 such communities will be dissolved
Porter	360	600,000	216,000,000	864,000,000	2,160,000,000	Local	Real	Group 3 communities have this position (two per community). Assume 180 such communities will be dissolved
Creating less websites	614	200,000	12,280,000	49,120,000	122,800,000	Local	Projected	Since communities are being dissolved, no need to create websites for them
Maintain less websites	614	550,000	337,700,000	1,350,800,000	3,377,000,000	Local	Projected	50,000 per year for domain, + 500,000 maintenance per year (employee)
Education								
Operating fewer kindergartens (maintenance)	100	150,000	15,000,000	60,000,000	150,000,000	Local	Real	Assuming 100 kindergartens will be closed down
Reduced need for capital renovations	50	20,000,000	100,000,000	400,000,000	1,000,000,000	Local	Projected	Assume 50 kindergartens would need renovation. Closing down => no need for renovation
Reduced need for minor renovations	50	5,000,000	25,000,000	100,000,000	250,000,000	Local	Projected	Assume 50 kindergartens would need renovation. Closing down => no need for renovation
Reduced staff: principal	100	900,000	90,000,000	360,000,000	900,000,000	Local	Real	Assume each of the kindergartens to close down has this position. Salary assumed as average
Reduced staff: accountant (part time)	100	360,000	36,000,000	144,000,000	360,000,000	Local	Real	Assume each of the kindergartens to close down has this position. Salary assumed as minimal
Reduced staff: cook	100	450,000	45,000,000	180,000,000	450,000,000	Local	Real	Assume each of the kindergartens to close down has this position. Salary assumed as the standard for accountant
Reduces staff: porter	100	600,000	60,000,000	240,000,000	600,000,000	Local	Real	Assume each of the kindergartens to close down has this position. Salary assumed as the standard for porter
Reduced staff: childcare person	100	450,000	45,000,000	180,000,000	450,000,000	Local	Real	Assume each of the kindergartens to close down has this position. Salary assumed as minimal
Reduced staff: cleaning	100	225,000	22,500,000	90,000,000	225,000,000	Local	Real	Assume each of the kindergartens to close down has at least one staff cleaning part time
Culture, Sports & Recreation								
Operating fewer culture houses (maintenance)	300	150,000	45,000,000	180,000,000	450,000,000	Local	Real	There are about 600 cultural centers in Armenia; only about 100 of those are operating properly. Assume 300 culture houses will be closed down
Reduced need for capital renovations	100	20,000,000	200,000,000	800,000,000	2,000,000,000	Local	Projected	Assume about 100 culture houses would need renovation. Closing down => no need for renovation
Reduced need for minor renovations	200	5,000,000	100,000,000	400,000,000	1,000,000,000	Local	Projected	Assume about 200 culture houses would need renovation. Closing down => no need for renovation
Reduces library staff	500	450,000	225,000,000	900,000,000	2,250,000,000	Local	Real	500 librarians at the minimum yearly salary of 450,000 will be fired
Sanitation								
Central landfill serving one or a few consolidated municipalities (maintenance costs)	18	3,600,000	64,800,000	259,200,000	648,000,000	Local	Real	There are 318 landfills in Armenia (excluding Yerevan). Assume the outcome number of landfills equals outcome number of communities, we can calculate the number of landfills that can be liquidated
Total			**5,005,420,000**	**20,021,680,000**	**50,054,200,000**			
Total Real			**3,930,440,000**	**15,721,760,000**	**39,304,400,000**		Real	
Total Forecasted			**1,074,980,000**	**4,299,920,000**	**10,749,800,000**		Projected	

Forecasted cost savings are stretched over 10 years

Benefit/Cost Ratio	-7,277,013,333	-5,772,386,667	11,587,700,000
Benefit/Cost Ratio (only real savings included)	-8,351,993,333	-10,072,306,667	837,900,000

Appendix 1.2 Cost Benefit Calculation of Amalgamation of Communities according to Scenario 1

Current number of communities	914
Outcome number of communities	300
Number of "dissolved" communities	614
Duration of the reform (years)	3

Direct Costs of Consolidation

Item	No of Units	Unit cost	Year 1 cost	Years 2-5 costs	Total Costs for 10 years	Budget Source	Type of expense	Notes
General Government								
Consolidation of rural communities would require new policy and implementing regulation		6,000,000	6,000,000	0	6,000,000	National		Assume a working group of 5 people with an average salary of 20,000 AMD per day, working for 60 days
Conducting case studies of each proposed consolidation before implementation	300	2,000,000	200,000,000	400,000,000	600,000,000	National		Lump sum estimation of one such case study
Conducting an evaluation of the pilot consolidation (as recommended in the concept paper)	1	10,000,000	10,000,000	0	10,000,000	National		Lump sum estimation
Information campaigns to get buy in from citizens		21,800,000	7,266,667	14,533,333	21,800,000	National/Local		20,000,000 for flyers + 600,000 for TV shows, 1,200,000 for newspaper articles
Town hall meetings	614	20,000	4,093,333	8,186,667	12,280,000	National/Local		Assuming that an expert would be bought to a town hall meeting in each community that is to be dissolved, which will incur some per-diem and transportation costs of 20,000 AMD on average. Assume the reform will happen during three years, year 1 = one third of the actual costs
Conducting a referendum specific to the communities planned for consolidation		200,000,000	66,666,667	133,333,333	200,000,000	National		Lump sum estimated on costs of referendum in 2005 plus the inflation rate, divided by two, to take out Yerevan population and population of those communities that are not affected. Assume the reform will happen during three years, year 1 = one third of the actual costs
Liquidation costs of communities / legal entities being consolidated and discontinued	614	10,000	2,046,667	4,093,333	6,140,000	Local		State fee for liquidation is 10,000. Assume the reform will happen during three years, year 1 = one third of the actual costs
Conducting new elections	614	500,000	102,333,333	204,666,667	307,000,000	National		Cost of elections in one community estimated based on 1999 (countrywide) plus inflation rate, divided by 900. Assume the reform will happen during three years, year 1 = one third of the actual costs
Transporting equipment and archives from dissolved municipalities	614	20,000	4,093,333	8,186,667	12,280,000	Local		Lump sum estimation of costs for gas and paying the driver and two workers
Consolidated communities will require larger municipality staff	50							50 new "Group 4" communities will be created
Expert	50	720,000	36,000,000	144,000,000	360,000,000	Local		
Driver	50	840,000	42,000,000	168,000,000	420,000,000	Local		
Training of municipality staff in different areas of local government management	1,600	30,000	16,000,000	32,000,000	48,000,000	National/Local		200 new Group 4 communities are formed, 8 staff per community needs re-training, cost of training per person is estimated 30,000. Assume re-training will happen over the course of three years
Renovation/modernization of the consolidated municipality building	300	20,000,000	2,000,000,000	4,000,000,000	6,000,000,000	Local		Assume each new community building will need some upgrade, either in terms of renovation or in terms of better equipment, communication means, etc.
Creating transition officers or representatives in each of the smaller neighborhoods making up the consolidated community	614	900,000	552,600,000	2,210,400,000	2,763,000,000	Local		Local representatives will serve in the communities for 5 years (as proposed in the government concept paper) Unit cost is an average yearly salary.
Cost of Upgrading Services								
Renovating kindergartens (capital)	100	20,000,000	666,666,667	1,333,333,333	2,000,000,000	Local		Assume 100 small kindergartens will need capital renovation
Renovating kindergartens (minor)	100	10,000,000	333,333,333	666,666,667	1,000,000,000	Local		Assume 100 medium size kindergartens will need minor renovations
Renovating culture houses (capital)	100	30,000,000	1,000,000,000	2,000,000,000	3,000,000,000	Local		Assume 100 culture houses will need to be renovated, split over three years
Renovating culture houses (minor)	200	10,000,000	666,666,667	1,333,333,333	2,000,000,000	Local		Assume 200 culture houses will need to be renovated, split over three years
Road repairs	9000	800,000	2,400,000,000	4,800,000,000	7,200,000,000	National/Local		Assume an average of 30 km will have to be repaired in 300 small communities. Split over three years
Creating/upgrading landfills to an international standard	5	2,500,000,000	4,166,666,667	8,333,333,333	12,500,000,000	National/Local		Assume a total of 5 international standard landfills will be created in Armenia. Cost split over three years
Total			12,282,433,333	25,794,066,667	38,466,500,000			
Total National Costs			385,000,000	738,000,000	1,123,000,000	National		
Total Local Costs			5,303,406,667	11,868,013,333	17,561,420,000	Local		
Total National/Local Costs			6,594,026,667	13,188,053,333	19,782,080,000	National/Local		

The reform is assumed to happen over the course of three years. Some of the costs equally divided into these three years

Cost/Benefit Ratio			7,277,013,333	5,772,386,667	-11,587,700,000
Cost/Benefit Ratio (only real savings included)			8,351,993,333	10,072,306,667	-837,900,000

Salaries	Yearly	Monthly
Minimal salary and social transfers	450,000	37,500
Average salary and social transfers	900,000	75,000

Buildings	Capital Renovation	Minor renovation	Maintenance (electricity, heating, water)
Small (1-3 rooms)	20,000,000	5,000,000	150,000
Medium (5-10 rooms)	30,000,000	10,000,000	300,000
Large (20 rooms)	60,000,000	20,000,000	500,000

Transportation	
Road repair per km.	800,000
Cost of one mini-bus	4,000,000
Cost of a bus	8,000,000

Appendix 2.1 Cost Benefit Calculation of Amalgamation of Communities according to Scenario 2

Current number of communities	914
Outcome number of communities	50
Number of "dissolved" communities	864

Cost Savings from Consolidation

Item	No of Units	Unit cost	Saving year 1	Savings years 2-5	Total savings for 10 years	Budget Source	Type of expense	Notes
Government Administration								
Reduced need for maintenance of municipality buildings	864	100,000	86,400,000	345,600,000	864,000,000	Local	Real	For all those communities that seize to exist there is no need to maintain the municipality building fully operational. Maintenance costs are reduced by 2/3
Reduced need for capital renovations of municipality buildings	100	20,000,000	200,000,000	800,000,000	2,000,000,000	Local	Projected	Assume about 100 small community buildings would need renovation. Closing down => no need for renovation
Reduced need for minor renovations of municipality buildings	200	5,000,000	100,000,000	400,000,000	1,000,000,000	Local	Projected	Assume about 200 small community buildings would need renovation. Closing down => no need for renovation
Reduced municipal staff								All communities that are Group 1 - 4 are dissolved, 54 communities of Group 5 are dissolved
Mayor	864	1,200,000	1,036,800,000	4,147,200,000	10,368,000,000	Local	Real	Current salary for a small (group 1) mayor is 100,000 per month. Assume all dissolved communities are small
Staff secretary	864	840,000	725,760,000	2,903,040,000	7,257,600,000	Local	Real	Current salary for a small (group 1) community staff secretary is 70,000 per month. Assume all dissolved communities are small
Accountant	864	720,000	622,080,000	2,488,320,000	6,220,800,000	Local	Real	Current salary for a small (group 1) community accountant is 60,000 per month. Assume all dissolved communities are small
Cleaning staff	864	150,000	129,600,000	518,400,000	1,296,000,000	Local	Real	Current salary for a small (group 1) community cleaning staff is 20,000 per month part time. Assume all dissolved communities are small
Education, culture and social sphere expert	864	600,000	518,400,000	2,073,600,000	5,184,000,000	Local	Real	Current salary for a small (group 1) community expert is 50,000 per month. Assume all dissolved communities are small
Expert	227	720,000	163,440,000	653,760,000	1,634,400,000	Local	Real	Group 2 communities have this position. Currently there are 227 such communities
Deputy mayor	215	1,320,000	283,800,000	1,135,200,000	2,838,000,000	Local	Real	Group 3 communities have this position. Currently there are 215 such communities
Computer operator	215	720,000	154,800,000	619,200,000	1,548,000,000	Local	Real	Group 3 communities have this position. Currently there are 215 such communities
Leading expert	215	960,000	206,400,000	825,600,000	2,064,000,000	Local	Real	Group 3 communities have this position. Currently there are 215 such communities
Porter	430	600,000	258,000,000	1,032,000,000	2,580,000,000	Local	Real	Group 3 communities have this position. Currently there are 215 such communities
Leading expert	302	1,200,000	362,400,000	1,449,600,000	3,624,000,000	Local	Real	Group 4 communities have this position (two per community). Currently there are 151 such com-es
Grade 1 expert	151	960,000	144,960,000	579,840,000	1,449,600,000	Local	Real	Group 4 communities have this position. Currently there are 151 such communities
Grade 2 expert	151	720,000	108,720,000	434,880,000	1,087,200,000	Local	Real	Group 4 communities have this position. Currently there are 151 such communities
Computer operator	151	840,000	126,840,000	507,360,000	1,268,400,000	Local	Real	Group 4 communities have this position. Currently there are 151 such communities
Driver	151	840,000	126,840,000	507,360,000	1,268,400,000	Local	Real	Group 4 communities have this position. Currently there are 151 such communities
Porter	302	720,000	217,440,000	869,760,000	2,174,400,000	Local	Real	Group 4 communities have this position (two per community). Currently there are 151 such com-es
Creating less websites	864	200,000	17,280,000	69,120,000	172,800,000	Local	Projected	Since communities are being dissolved, no need to create websites for them
Maintain less websites	864	550,000	475,200,000	1,900,800,000	4,752,000,000	Local	Projected	50,000 per year for domain, + 500,000 maintenance per year (employee)
Education								
Operating fewer kindergartens (maintenance)	100	150,000	15,000,000	60,000,000	150,000,000	Local	Real	Assuming 100 kindergartens will be closed down
Reduced need for capital renovations	50	20,000,000	100,000,000	400,000,000	1,000,000,000	Local	Projected	Assume 50 kindergartens would need renovation. Closing down => no need for renovation
Reduced need for minor renovations	50	5,000,000	25,000,000	100,000,000	250,000,000	Local	Projected	Assume 50 kindergartens would need renovation. Closing down => no need for renovation
Reduced staff: principal	100	900,000	90,000,000	360,000,000	900,000,000	Local	Real	Assume each of the kindergartens to close down has this position. Salary assumed as average
Reduced staff: accountant (part time)	100	360,000	36,000,000	144,000,000	360,000,000	Local	Real	Assume each of the kindergartens to close down has this position. Salary assumed as minimal
Reduced staff: cook	100	450,000	45,000,000	180,000,000	450,000,000	Local	Real	Assume each of the kindergartens to close down has this position. Salary assumed as the standard for accountant
Reduces staff: porter	100	600,000	60,000,000	240,000,000	600,000,000	Local	Real	Assume each of the kindergartens to close down has this position. Salary assumed as the standard for porter
Reduced staff: childcare person	100	450,000	45,000,000	180,000,000	450,000,000	Local	Real	Assume each of the kindergartens to close down has this position. Salary assumed as minimal
Reduced staff: cleaning	100	225,000	22,500,000	90,000,000	225,000,000	Local	Real	Assume each of the kindergartens to close down has at least one staff cleaning part time
Culture, Sports & Recreation								
Operating fewer culture houses (maintenance)	400	150,000	60,000,000	240,000,000	600,000,000	Local	Real	There are about 600 cultural centers in Armenia; only about 100 of those are operating properly. Assume 400 will be closed down
Reduced need for capital renovations	100	20,000,000	200,000,000	800,000,000	2,000,000,000	Local	Projected	Assume about 100 culture houses would need renovation. Closing down => no need for renovation
Reduced need for minor renovations	200	5,000,000	100,000,000	400,000,000	1,000,000,000	Local	Projected	Assume about 200 culture houses would need renovation. Closing down => no need for renovation
Reduces library staff	500	450,000	225,000,000	900,000,000	2,250,000,000	Local	Real	500 librarians at the minimum yearly salary of 450,000 will be fired
Sanitation								
Central landfill serving one or a few consolidated municipalities (maintenance costs)	268	3,600,000	964,800,000	3,859,200,000	9,648,000,000	Local	Real	There are 318 landfills in Armenia (excluding Yerevan). Assume the outcome number of landfills equals outcome number of communities, we can calculate the number of landfills what can be liquidated
Total			8,053,460,000	32,213,840,000	80,534,600,000			
Total Real			6,835,980,000	27,343,920,000	68,359,800,000		Real	
Total Forecasted			1,217,480,000	4,869,920,000	12,174,800,000		Projected	
Forecasted cost savings are stretched over 10 years								
Benefit/Cost Ratio			-5,018,470,000	4,566,780,000	39,815,610,000			
Benefit/Cost Ratio (only real savings included)			-6,235,950,000	-303,140,000	27,640,810,000			

Appendix 2.2 Cost Benefit Calculation of Amalgamation of Communities according to Scenario 2

Current number of communities	914
Outcome number of communities	50
Number of "dissolved" communities	864
Duration of the reform (years)	3

Direct Costs of Consolidation

Item	No of Units	Unit cost	Year 1 cost	Years 2-5 costs	Total Costs for 10 years	Budget Source	Type of expense	Notes
General Government								
Consolidation of rural communities would require new policy and implementing regulation		6,000,000	6,000,000	0	6,000,000	National		Assume a working group of 5 people with an average salary of 20,000 AMD per day, working for 60 days
Conducting case studies of each proposed consolidation before implementation	50	3,000,000	50,000,000	100,000,000	150,000,000	National		Lump sum estimation of one such case study
Conducting an evaluation of the pilot consolidation (as recommended in the concept paper)	1	20,000,000	20,000,000	0	20,000,000	National		Lump sum estimation
Information campaigns to get buy in from citizens		21,800,000	7,266,667	14,533,333	21,800,000	National/Local		20,000,000 for flyers + 600,000 for TV shows, 1,200,000 for newspaper articles
Town hall meetings	864	20,000	5,760,000	11,520,000	17,280,000	National/Local		Assuming that an expert would be bought to a town hall meeting in each community that is to be dissolved, which will incur some per-diem and transportation costs of 20,000 AMD on average. Assume the reform will happen during three years, year 1 = one third of the actual costs
Conducting a referendum specific to the communities planned for consolidation		200,000,000	66,666,667	133,333,333	200,000,000	National		Lump sum estimated on costs of referendum in 2005 plus the inflation rate, divided by two, to take out Yerevan population and population of those communities that are not affected. Assume the reform will happen during three years, year 1 = one third of the actual costs
Liquidation costs of communities / legal entities being consolidated and discontinued	864	10,000	2,880,000	5,760,000	8,640,000	Local		State fee for liquidation is 10,000. Assume the reform will happen during three years, year 1 = one third of the actual costs
Conducting new elections	864	500,000	144,000,000	288,000,000	432,000,000	National		Cost of elections in one community estimated based on 1999 (countrywide) plus inflation rate, divided by 900. Assume the reform will happen during three years, year 1 = one third of the actual costs
Transporting equipment and archives from dissolved municipalities	864	50,000	14,400,000	28,800,000	43,200,000	Local		Lump sum estimation of costs for gas and paying the driver and two workers
Training of municipality staff in different areas of local government management	1,069	30,000	10,690,000	21,380,000	32,070,000	National/Local		Staff of all communities except Group 8 needs re-training. Group 5 (8 newly created communities, 12 staff per community), Group 6 (18 communities, 21 staff per community), Group 7 (17 communities, 35 staff per community)
Renovation/modernization of the consolidated municipality building	50	20,000,000	333,333,333	666,666,667	1,000,000,000	Local		Assume each new community building will need some upgrade, either in terms of renovation or in terms of better equipment, communication means, etc.
Creating transition officers or representatives in each of the smaller neighborhoods making up the consolidated community	864	900,000	777,600,000	3,110,400,000	3,888,000,000	Local		Local representatives will serve in the communities for 5 years (as proposed in the government concept paper) Unit cost is an average yearly salary.
Cost of Upgrading Services								
Renovating kindergartens (capital)	100	20,000,000	666,666,667	1,333,333,333	2,000,000,000	Local		Assume 100 small kindergartens will need capital renovation
Renovating kindergartens (minor)	100	10,000,000	333,333,333	666,666,667	1,000,000,000	Local		Assume 100 medium size kindergartens will need minor renovations
Renovating culture houses (capital)	100	30,000,000	1,000,000,000	2,000,000,000	3,000,000,000	Local		Assume 100 culture houses will need to be renovated, split over three years
Renovating culture houses (minor)	200	10,000,000	666,666,667	1,333,333,333	2,000,000,000	Local		Assume 200 culture houses will need to be renovated, split over three years
Road repairs	18000	800,000	4,800,000,000	9,600,000,000	14,400,000,000	National/Local		50 newly created communities will each consist of about 18 former communities. Assume each of these 18*50 communities will need at least 20 km of road repairs to improve commuting.
Creating/upgrading landfills to an international standard	5	2,500,000,000	4,166,666,667	8,333,333,333	12,500,000,000	National/Local		Assume a total of 5 international standard landfills will be created in Armenia. Cost split over three years
Total			13,071,930,000	27,647,060,000	40,718,990,000			
Total National Costs			286,666,667	521,333,333	808,000,000	National		
Total Local Costs			3,794,880,000	9,144,960,000	12,939,840,000	Local		
Total National/Local Costs			8,990,383,333	17,980,766,667	26,971,150,000	National/Local		

The reform is assumed to happen over the course of three years. Some of the costs equally divided into these three years

Cost/Benefit Ratio			5,018,470,000	-4,566,780,000	-39,815,610,000
Cost/Benefit Ratio (only real savings included)			6,235,950,000	303,140,000	-27,640,810,000

Salaries	Yearly	Monthly
Minimal salary and social transfers	450,000	37,500
Average salary and social transfers	900,000	75,000

Buildings			
	Capital Renovation	Minor renovation	Maintenance (electricity, heating, water)
Small (1-3 rooms)	20,000,000	5,000,000	150,000
Medium (5-10 rooms)	30,000,000	10,000,000	300,000
Large (20 rooms)	60,000,000	20,000,000	500,000

Transportation	
Road repair per km.	800,000
Cost of one mini-bus	4,000,000
Cost of a bus	8,000,000