



ADVANCED
SOCIAL
TECHNOLOGIES

BENEFIT INCIDENCE ANALYSIS

***STRENGTHENING INSTITUTIONS TO IMPROVE PUBLIC
EXPENDITURE ACCOUNTABILITY
PROJECT***

ADVANCED SOCIAL TECHNOLOGIES
NON-GOVERNMENTAL ORGANIZATION

Armenia

2010

BENEFIT INCIDENCE ANALYSIS

Contents

ABSTRACT	3
METHODOLOGY	3
LIST AND DESCRIPTION OF FUNDING SOURCES FOR EACH SECTOR	7
LIST AND DESCRIPTION OF HOUSEHOLD UTILIZATION DATA SOURCES	8
TABLES FROM BIA REQUIREMENTS	8
ASSUMPTIONS MADE	11
RESULTS AND DISCUSSION	11
CHALLENGES TO CONDUCTING THIS WORK	24
POSSIBLE EXTENSIONS	25
PLANS FOR DISSEMINATION/COMMUNICATIONS	26
ANNEXES	27
Annex A: State Budget Healthcare Programs/Services	28
Annex B: Education sector benefit incidence calculation details	30
Annex C: Healthcare households' expenditures (as per survey results)	35

ABSTRACT

This report tries to reveal the distribution of the public services in education, health and water sectors to the population broken down by expenditure quintiles. The aim is to understand the existing pattern and trends and, if required, prepare ground for policy briefs being produced and communicated to the government stakeholders on the need to adjust their existing sector policies.

METHODOLOGY

The background information on sectors that could be helpful in adding more contexts to this analysis is presented in the Program Budgeting Analysis report that was conducted by AST in parallel to this report.

As we lack information on benefit incidence by programs, we performed a survey to identify the quintiles and service usage by each quintile for the programs identified in the PBA report.

The survey has covered the use of services in 2008 and 9 months of the 2009. The analysis in this report covers different aspects of the services in all three sectors and by programs. However, in all three sectors we have excluded the Policy Formulation and Administration services as the households are not direct service beneficiaries for those.

A specific questionnaire was prepared to support the process. 1600 households have participated in the survey from different parts (urban and rural) of Armenia. The quintiles had been identified using simple break points of 320 households¹ in each quintile. The quintiles by expenditure levels had been identified as follows:

<i>Quintile</i>	<i>Monthly expenditures</i>
Quintile 1	Below 58700 AMD
Quintile 2	58700-94900 AMD
Quintile 3	94900-135850 AMD
Quintile 4	136000-209100 AMD
Quintile 5	Above 209100 AMD

The process of benefit incidence identification has gone through the following stages:

- Identify the subsidy level by for each program (programs were identified earlier in the PBA report)
- Obtain feedback on the level of usage of each service for identified programs (survey results)
- Allocate the results by each quintile
- Calculate the share of each benefit incidence in the total expenditure by programs and quintiles

In identifying the programs for BIA, we have followed the PBA report programs structure. However, for the purpose of BIA we have excluded internal services (or assisting/supporting services) that are not directly attributable to those external services that the households receive from

¹ 1600 divided by 5 quintiles

the government, e.g. Policy Formulation and Administration programs that the households cannot provide a solid feedback on the level of consumption of such service.

More specific information on the methodology and programs structure by sector is presented below.

EDUCATION

For the purpose of Benefit Incidence Analysis, the following structure of Armenian Education main levels was used:

General Education

1. Primary School
2. Middle School
3. High school

Initial Professional and Middle Professional (Vocational) Education

1. Initial Professional Vocational Education
2. Middle Professional Vocational Education

Higher Education

1. Higher (Undergraduate and Graduate) Professional Education
2. Post-Graduate Professional Education

The applied structure is consistent with the one used in the Program Budgeting Analysis. Thus the results on state budget allocations and enrollments for the defined programs obtained from PB analysis can be used in BIA without any regroupings and reallocations.

Sources of data used

- School year data on student enrollment for primary, middle and high schools for the period 2005-2006 to 2008-2009 school years were obtained from Education Management Information System database, run by the Center for Education Projects.
- School year data on student enrollment for initial and middle vocational, as well as higher and post-graduate education levels for the period 2005-2006 to 2008-2009 school years were obtained from Armenian Statistical Service publication “Social conditions in Armenia” for years 2005 to 2008.
- Data on total state budget financing and educational institutions’ recurrent financing for the years 2006 through 2009 were obtained from Program Budgeting Analysis spreadsheets.
- Data on actual individual enrollments per educational levels and household quintiles for May 2008, September 2008, May 2009 and September 2009 were obtained from the database of the household survey conducted in September 2009 by Advanced Social Technologies with the sample size of 6539 individuals
- Data on household spending per educational levels and household quintiles were obtained for 2008 and 2009 from the same database.

Actual enrollments per educational levels

- Actual enrollments for all educational levels and all school years (2005-2006 to 2008-2009) represent actual numbers of state budget-financed students.
- Actual enrollments per educational levels for 2009-2010 school year were calculated based on the same parameters for 2008-2009 school year multiplied by the average % change in enrollments per each level for the period 2005-2006 through 2008-2009 school years.
- Actual enrollments per educational levels for financial years 2006 through 2009 were calculated by summing 2/3 of actual enrollment of the previous school year and 1/3 – for the next school year for each level of education. For example, primary school enrollment for 2006 was calculated by summing 2/3 of the number of primary school students for 2005-2006 school year and 1/3 of the number of primary school students for 2006-2007 school year. This methodology is used by the Ministry of Finance, the Ministry of Education and Science and Regional governance bodies (Marzpetarans) for preparation of annual state budgets.

Calculation of unit subsidies

Unit subsidies for each educational level were calculated for 2006 through 2009 financial years in two versions:

- For the first version total state budget financing figures for each educational level were used to divide by the number of students, including all recurrent and capital financings and financing for support services that were allocated to certain educational levels with the methodology used in Program Budgeting Analysis.
- For the second version only financing of recurrent costs of educational institutions associated with process were used to divide by the number of students.
- The second version of unit subsidy calculation was applied for the comparison of unit subsidies derived through both calculation ways mainly to show the impact of inclusion of all capital and support service costs on unit subsidy sizes.
- For the purpose of benefit incidence calculation unit subsidies calculated through the first version were used.

Calculation of benefit incidences

- For the purpose of benefit incidence calculation survey results on enrollments per educational levels and 1 to 5 household quintiles (1-the poors, 5-the richest) were grouped for the dates September 2009, May 2009, September 2008 and May 2008 (the beginning and end dates of school years for 2009 and 2008).
- Percent shares of quintiles in total enrollments for each educational levels were calculated for all mentioned dates.
- Estimated school enrollment levels by expenditure quintiles and educational levels were calculated in two ways:
 - a. In the first way enrollments per each educational level and quintile were multiplied by the total population (3 mln. persons) and divided by the sample size of the survey (6539 persons);
 - b. In the second way actual total enrollments per educational levels in school year basis used for unit subsidy calculations were distributed among quintiles based on % share of quintiles in the total enrollment for the certain educational level.

- c. The reasons for the second way of calculation that according to the first way of calculation the total enrollments per educational levels for the dates mentioned in the first bullet point were higher than actual enrollment figures at hand.
- Based on the justifications brought the results of the second way of estimated school enrollment levels by quintiles were taken as the basis for distribution of benefits of education expenditures by quintile and educational levels.
 - For distribution of benefits of education expenditures by quintiles and educational levels estimated school enrollment levels by quintiles were multiplied by the relevant unit subsidies for each educational level in the way, that 1/3 of annual subsidies were allocated to September (2008 and 2009) and 2/3 of annual subsidies were allocated to May (2008 and 2009).
 - Percent shares of distribution of benefits of education expenditures by quintiles in total financings for each educational levels were calculated for all dates mentioned in the first bullet point.
 - The data on household spending per educational levels and quintiles derived from the survey database were grouped for 2008 and 2009, and total spending quintiles and levels were calculated.

HEALTH

The survey has covered the following programs and services in health sector.

1. Public health primary care services
2. Services of obstetrical-gynecological medical assistance
3. Hospital medical aid services
4. Public health services
5. Paramedical services and other supportive services

WATER

The following programs and services under those had been analyzed for benefit incidence.

1. Drinking Water Supply
2. Sewerage
3. Irrigation

In preparation of the BIA tables, we have used the data from PBA report on financial allocations of programs by programs. PBA allowed aggregating all relevant costs by programs, so the overall budgets by programs present full costs of the policies compared with official government budget reports where the programs are broken down into many subprograms and activities.

As the tables in this report present the data in Armenian Drams, the AMD/USD exchange rate by years is presented below.

	2006	2007	2008	2009 (estimated)
AMD/USD rate (average) ²	416.0	342.1	306.0	303.69

LIST AND DESCRIPTION OF FUNDING SOURCES FOR EACH SECTOR

The funding sources for all three sectors are limited to the national budget and donors³. Local governments finance neither education nor healthcare or water programs⁴.

EDUCATION

The main financing source for educational levels used in BIA is the Central Government budget. Several levels also include donor financing, such as the World Bank, European Commission, Lincy Foundation and others. The Program Budgeting Analysis tables present detailed breakdown of financing sources of all levels.

HEALTH

The only financing source for health programs is the state budget (donor funds are directed via state budget). As in education sector, local governments do not have expenditures for health programs.

WATER

The reason for having only two funding levels is the fact that water infrastructure belongs to the state government. Starting from 2001 the water infrastructure was leased out to private operators like in the case of the Yerevan water supplier leasing the whole Yerevan infrastructure as the result of the tender.

The irrigation system is also fully dependant on the state budget and donor funding. And despite of the fact of significant reforms in this area launched in 2002 (adoption of new Water Code and law on “Water Users Associations and Federations of Water Users Associations, shift to private affairs, creation of Water Users Companies - WUC), the government still subsidizes WUCs to maintain low pricing strategy due to the strategic issues on local foodstuff supplies and high costs for local production.

So, below is the summary table for the above information.

	Education	Health	Water
Level 1: State Budget	Ministry of Education;	Ministry of Health,	Ministry of Finance,

² Source: “Armenia Economic Report 2009: From Crisis toward New Development”, Ministry of Economy of the Republic of Armenia

³ Donor funding is also channeled via the State budget, however, the BIA analysis benefits if such breakdown is possible to make

⁴ Some minor exceptions take place in cases of a direct private donor support or similar instances

	Marzpetarans	Marzpetarans	State Water Management Committee
Level 2: Regional budgets	n/a in Armenian context ⁵	n/a	n/a
Level 3: Local governments	No ⁶	No	No

LIST AND DESCRIPTION OF HOUSEHOLD UTILIZATION DATA SOURCES

The main source for our BIA was the conducted household survey with specific targeting for service utilization (benefit incidence) level by household. The questionnaire was developed to fully match the program structure defined by the PBA report.

Using in-house research capacity AST has initiated a nationwide household survey, which covered 1600 households. The survey was conducted in September 2009 in 14 urban and 39 rural settlements. The sample was distributed proportionally among Yerevan (the capital city), other urban and rural locations based on the 2001 census figures. A multi-stage random sampling methodology was used to select the households.

Given the total number of households in Armenia (788,666 as per 2001 census) the sample size of 1600 randomly selected households guarantees a margin of error of 2.5% with confidence level of 95%. The sample is not only representative at the national level, but also at the level of the three main clusters – Yerevan, other urban settlements, and rural settlements.

Cluster	Total households	Achieved sample size	Margin of error
Yerevan	277,730	551	4.2%
Other urban locations	242,288	483	4.5%
Rural locations	258,648	566	4.2%
Total	788,666	1,600	2.5%

Furthermore, the number of individuals covered by the survey was 6,539 (In average, 4.1 members per household; an exact match with the 2001 census figure), which, given the population figure of 3,200,000, allowed making all nationwide per capita extrapolations with a margin of error as low as 1.2%.

The structured questionnaire used for the data collection contained questions allowing to do the BIA for the three sectors, as well as additional questions that we intend to analyze and use during CBA in 2010.

TABLES FROM BIA REQUIREMENTS

Per-student Government Subsidy for School Enrollment, by Facility Level (1E)

⁵ As they form part of the state budget

⁶ Only for pre-school education (kindergartens), but which are not within the scope of this report

<i>Education</i>	Unit Subsidy (thousands AMD)	Unit Subsidy in USD
General Education	205	670
Initial Professional and Middle Professional Vocational Education	265	866
Higher Education	310	1013

Per-user Government Subsidy for Health Services, by Facility Level (1H)

<i>Health</i>	Unit Subsidy (thousands AMD)	Unit Subsidy in USD
Public health primary care services	13.67	45
Services of obstetrical-gynecological medical assistance	64.87	212
Hospital medical aid services	57.55	188
Public health services	62.87	205
Paramedical services and other supportive services	3,321.21	10,854

Per-connection Government Subsidy for Water Services, (1W)

<i>Water</i>	Unit Subsidy (thousands AMD)	Unit Subsidy in USD
Drinking Water Supply	2.73	9
Sewerage	0.23	1
Irrigation	4.26	14

Estimated School Enrollment Level by Expenditure Quintile and Facility Level (2E)⁷

<i>Education</i>	Expenditure Quintile				
	1 (lowest)	2	3	4	5 (highest)
General Education	103059	93771	90323	79022	54064
Initial Professional and Middle Professional Vocational Education	4215	5415	7224	5616	3015
Higher Education	1807	2741	3836	5361	8301

Estimated Health Facility Usage by Expenditure Quintile and Facility Level (2H)

<i>Health</i>	Expenditure Quintile				
	1	2	3	4	5

⁷ More detailed information is available in Annex B

	(lowest)				(highest)
Public health primary care services	313,125	301,875	256,875	279,375	185,625
Services of obstetrical-gynecological medical assistance	18,750	24,375	9,375	18,750	7,500
Hospital medical aid services	73,125	35,625	48,750	63,750	37,500
Public health services	5,625	15,000	7,500	9,375	7,500
Paramedical services and other supportive services	-	-	3,750	-	-

Estimated Water Usage by Expenditure Quintile and Program (2W)

<i>Water</i>	Expenditure Quintile				
	1 (lowest)	2	3	4	5 (highest)
Drinking Water Supply	519,375	536,250	545,625	560,625	571,875
Sewerage	133,125	166,875	157,500	144,375	146,250
Irrigation	446,250	425,625	446,250	446,250	470,625

Distribution of Benefits of Education Expenditures (%), by Expenditure Quintile and Facility (3E)

<i>Education</i>	Expenditure Quintile				
	1 (lowest)	2	3	4	5 (highest)
General Education	24%	22%	22%	19%	13%
Initial Professional and Middle Professional Vocational Education	16%	24%	28%	24%	8%
Higher Education	8%	13%	17%	24%	38%
Total	23%	22%	22%	20%	14%

Distribution of Benefits of Health Expenditures (%), by Expenditure Quintile and Facility (3H)

<i>Health</i>	Expenditure Quintile				
	1 (lowest)	2	3	4	5 (highest)
Public health primary care services	23.4%	22.6%	19.2%	20.9%	13.9%
Services of obstetrical-gynecological medical assistance	23.8%	31.0%	11.9%	23.8%	9.5%
Hospital medical aid services	28.3%	13.8%	18.8%	24.6%	14.5%
Public health services	12.5%	33.3%	16.7%	20.8%	16.7%
Paramedical services and other supportive services	0.0%	0.0%	100.0%	0.0%	0.0%
Total	24%	22%	19%	22%	14%

Distribution of Benefits of Water Expenditures (%), by Expenditure Quintile and Program (3W)

<i>Water</i>	Expenditure Quintile				
	1 (lowest)	2	3	4	5 (highest)
Drinking Water Supply	19%	19.8%	19.9%	20.5%	20.8%
Sewerage	20%	19%	20%	19.9%	21.1%
Irrigation	17.7%	22.1%	21.2%	19.5%	19.5%
Total	19.2%	19.7%	20.1%	20.2%	20.8%

ASSUMPTIONS MADE

In contrast to the PBA report in BIA analysis we have used a rounded estimate of the actual population in country, which is 3 millions vs officially registered 3.2. This is done to mitigate the risk of actual level of benefit incidence in each sector.

Below is the list of main assumptions used for the preparation of BIA tables.

- Household survey data on student enrollments per educational levels and expenditure quintiles are representative for expanding the analysis to the whole population of Armenia.
- Enrollment percent shares of quintiles in totals for each educational levels are justified to use them in distribution of actual enrollments per levels among expenditure quintiles.
- Official data on population size for 2008 and 2009 are higher than actual ones.
- Survey data on household expenditures per educational levels and quintiles fairly represent actual household (private) expenditures of population on education.
- The breakdown by public vs. private connection in water supply, sewerage and irrigation is not made within the context of benefit incidence calculation due to the specifics of the water sector infrastructure in the country. All such infrastructure considered under within the survey has assumed public connection as those are government owned. Therefore, the households that are out of the water system are the ones that utilize private connections (wells or other natural sources)⁸. Therefore, the benefit incidence of expenditures could not be attributed to such cases.
- Another assumption is water sector is that in those cases where there is a direct use of services under the programs, such households have equal level of access to the water programs services, so no specific weighting was given on utilization ration by households.

RESULTS AND DISCUSSION

The results by each sector are provided below, however, the general picture is that the benefit incidence by programs is very different and in some cases opens questions rather than provides answers. And in some quite specific instances there are findings that raise the need for government counterparts to review the existing policies. In any case, benefit incidence analysis is an important

⁸ PBA report provides information on how many beneficiaries are out of scope of state and donor expenditures

tool and we would recommend the government bodies to use this tool in their further analyses and policy formulation processes.

EDUCATION

Enrollments in educational levels

As the tables on enrollments for General, Vocational and Higher education show, each of these aggregate levels of education have different tendencies of change for the period between 2005-2006 school year and 2009-2010 school year. These differences are analyzed below:

- Total General Education enrollment decreased from about 471000 students to about 393000 students during the mentioned period. This decrease is a result of decline in birth rate and heavy emigration of population for better job and living conditions that had started in 90s;
- Increase in Vocational Education enrollment by 8% (from about 24000 to about 26000 students) is a result of changes in both the demand and supply sides: increase of the demand of population for vocational education services, which mainly are covered by the State Budget, as well as increase of initial vocational institutions from 24 to 28;
- Relatively stable state-financed enrollment in Higher Education is a result of a governmental policy not to increase the number of state financed places, which in its turn resulted in decrease of the share of state-financed enrollment in total higher education enrollment from 27% to 21%.

Unit subsidies

As the tables of unit subsidy calculation show, there was a steady increase in student subsidies for the period 2006-2009 years: the average annual % increase of total per student state financing in Armenia Education (including capital and support services costs) was about 23% with about 24% in General Education, 31% in Vocational Education and 15% in Higher Education. This increase is a result of combined effect of decreasing General Education enrollment and announcement of Education sector as the priority area for the Government expenditures since 2003.

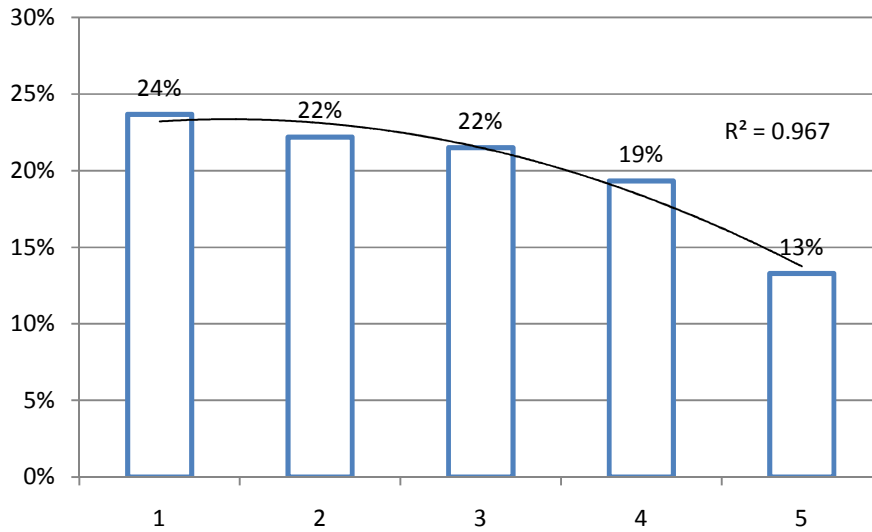
Comparison of unit subsidies calculated base on total education expenditures, derived from PBA exercise, and recurrent expenditures of educational institutions that are used by the Government for unit cost analysis, shows that unit subsidies that include all educational expenditures for Education are in average 40% higher than those including only institutions' recurrent costs. For example, in 2006 total unit subsidy for General Education was about 140 thousand AMD, whereas the recurrent unit subsidy for the same year was 97 thousand AMD, In 2009 the same figures were about 266 thousand AMD against about 188 thousand AMD. This comparison shows that the methodology used in PBA exercise more properly reflects per student state expenditures than the methodology used currently.

Benefit incidence

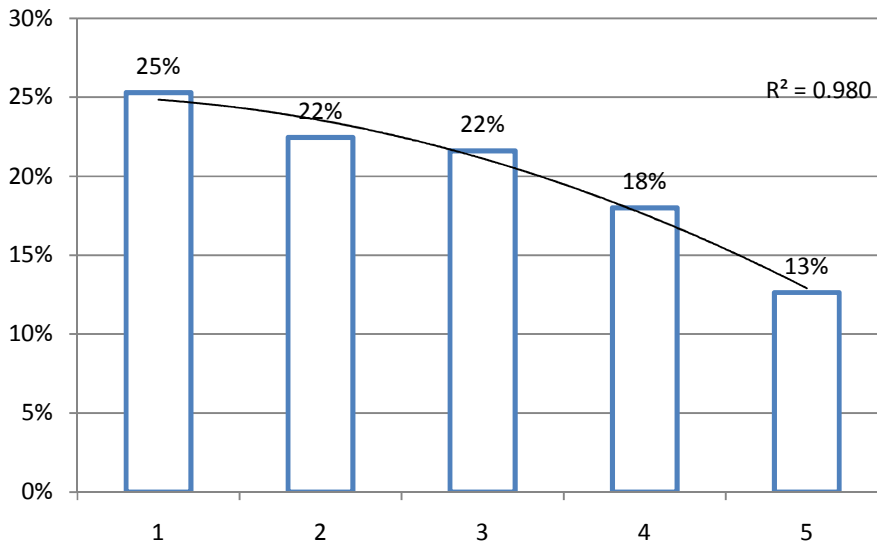
Analysis of the calculations in benefit incidence tables is reflected in the findings brought below:

- The number of enrolled students in General Education decreases across quintiles – the highest in quintile 1 and the lowest in quintile 5, and this trend is the same for all 4 time intervals used (may 2008, Sep 2008, May 2009, Sep 2009).

General Education enrollment by quintiles, 2008

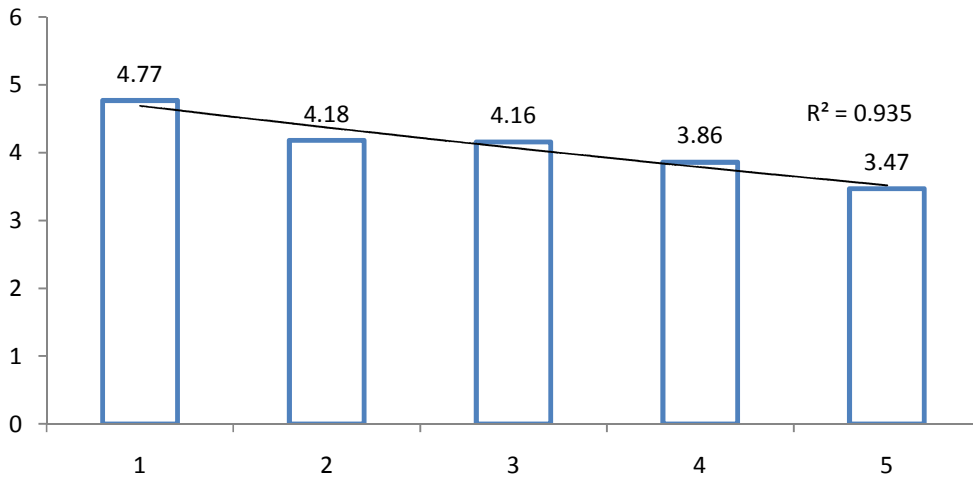


General Education enrollment by quintiles, 2009



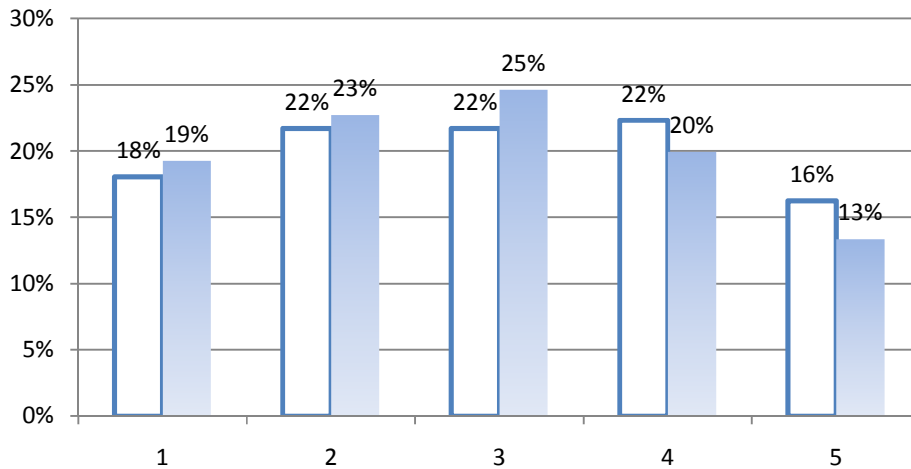
This finding is explained by the smaller household sizes in richer quintiles. And this is illustrated in the graph below:

Average HH size by quintiles; 2009



Interestingly (and in contrast to our expectations), the enrollment in high school is not directly correlated with the expenditure level for all quintiles, i.e. the expected “the higher quintile – the more enrollment” hypothesis did not prove, for at least 2008 and 2009 figures (see below).

High school enrollment in 2008 and 2009

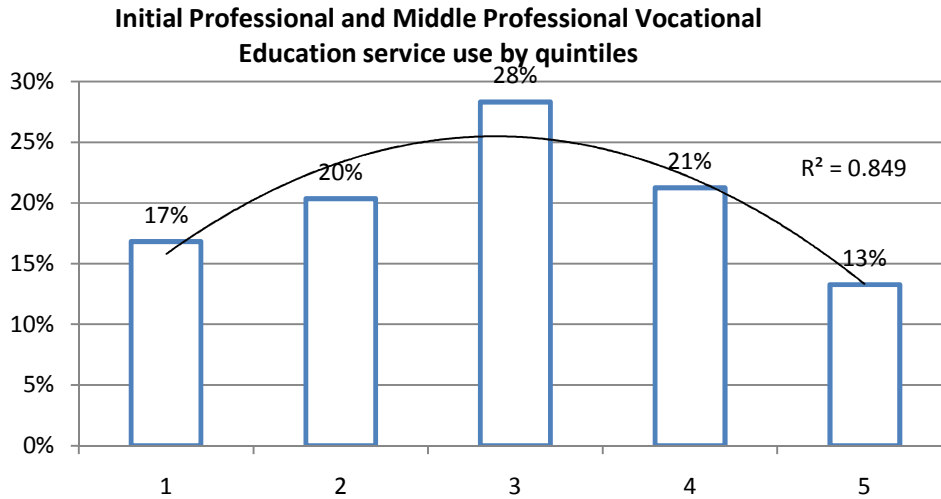


And although we do not have a solid explanation to this pattern (especially that it somehow does not fit into the pattern of High Education enrollment (see below) as many of the high school applicants would naturally like to continue in higher education). However, the possible explanation could be that the recent initiatives in institutional reforms of high schools have not yet impacted the enrollment and that is why the enrollment in high schools is closer to the pattern in General Education – the only variation in the pattern is for the lowest quintile and this logic then fits in the initial hypothesis.

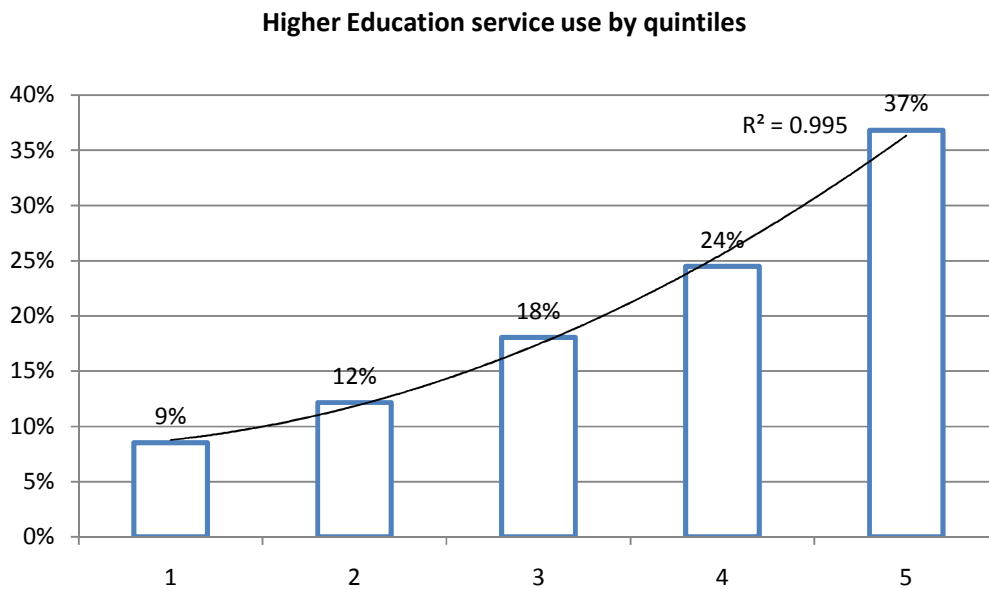
In any case, the survey data indicate that there is a strong benefit incidence inclination of government spending in general education towards poorer quintiles.

- The number of enrolled students in General Education decreases across all 4 time intervals used for almost all quintiles. This finding is explained by the demographic shift of population discussed above. This decrease also is reflected in total education enrollment, since General Education has the largest proportion in the total Education enrollment.

- Increased enrollment in Vocational and Higher Education levels across time intervals reflects higher demand for vocational and higher education resulting from the desire for higher incomes and better working conditions.



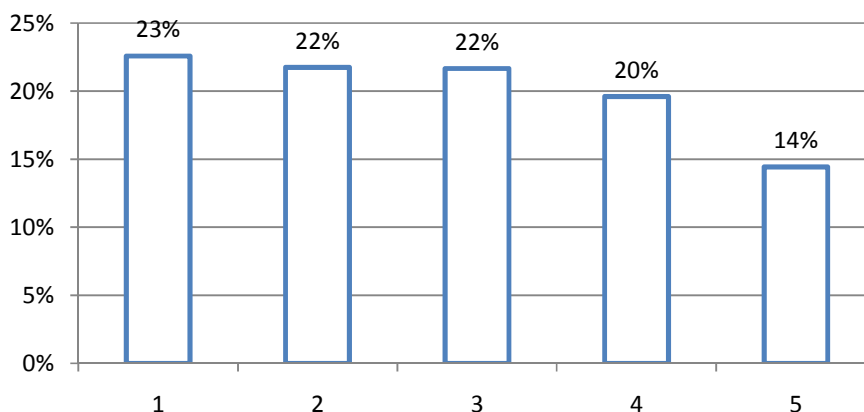
However the enrollment shares by quintiles in these two areas is very different. And if the general pattern of the enrollment by quintiles in Initial Professional and Middle Professional Vocational education is logical and generally economically (and socially) acceptable, the pattern in Higher Education is logical but social-wise is way too extreme. We believe this could be the area where the government authorities must be concerned about vicious cycle created by the system for poor to stay poor and government paying no specific attention to it.



- Number of students enrolled in Higher Education increases substantially across expenditure quintiles for all time intervals (in average from 8% in quintile 1 to 37% in quintile 5). This trend represents unequal opportunities for poors and riches to get better prepared for entering universities, as well as lack of pro-poor state policy in allocation of state subsidies for higher education.

- Analysis of distribution of benefits of education expenditures shows decrease in the share of overall education expenditures across quintiles, which is consistent for all time intervals. That means, the poorest quintile receives and largest portion of overall state education expenditures (about 23%), and the richest quintile receives the smallest portion of those expenditures (about 14%). This is more a result of difference in household size between quintiles mentioned in the first bullet point of this section, than a result of systematic pro-poor state policy in education expenditures.

Benefit Incidence in Education sector by quintiles



HEALTH

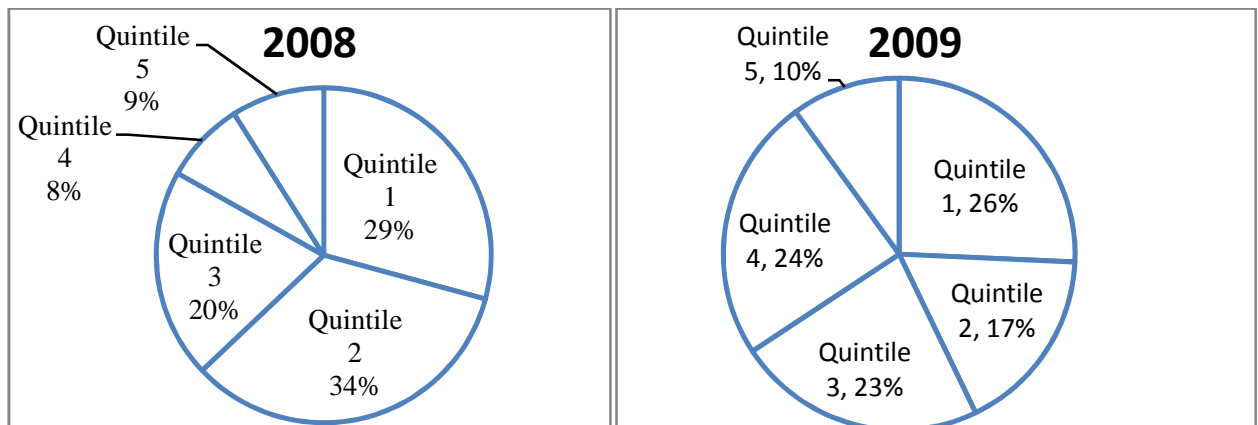
In this report we tried to cover as many aspects of benefit incidence as possible. In particular, we tried to estimate and analyze the variations of benefit incidence by quintiles not only within the requirements of the BIA report, but also by additional aspects, such as dynamics and urban vs. rural distributions, etc.

Below is the basic breakdown of life births by quintiles and years.

quintiles	Household survey results for child births		Household survey results for child births, in %	
	2009 (9 months/12 months ⁹)	2008	2009 (9 months)	2008
1	18/24	26	26%	29%
2	12/16	30	17%	34%
3	16/21	18	23%	20%
4	17/23	7	24%	8%
5	7/9	8	10%	9%
Total	70/93	89	100%	100%

Interestingly, this indirectly proves the unintentional pro-poor benefit incidence in education sector mentioned above (for general education) as more poor quintiles not only already have bigger share of use of services to children but also supply the same trends for near future. However, as the further details show there might be some improvement in balancing the child births within quintiles.

⁹ Using basic extrapolation of 9 months stats to 12 months forecast



Although there is some increase in number of birth cases (simple extrapolation of 9 months statistics over the 2009), there is an interesting move within the quintiles too. There is some noticeable increase of the child births above the 2nd quintile. Two years dynamics is too short for making such conclusions, however it is already a factor that stakeholder and sector policy makers must consider in designing longer-term policies.

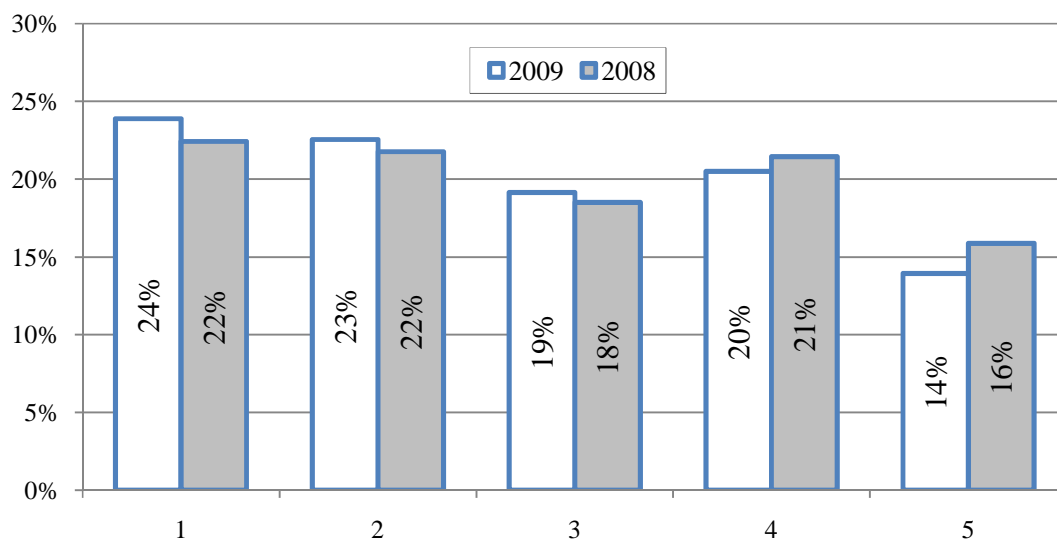
Another derived reflection could be that such increase is driven by generally positive trends in economy¹⁰ and more specifically by increased policy prioritization of this subsector. According to the Ministry of Health maternity related services became significantly more accessible to all layers of the population. Naturally, if financial aspects were important factor for family planning, we would see the opposite trend as the lower quintiles would have been most affected by such policy, whereas we see that middle level has responded the best. Therefore, similarly making a caveat on having too short statistics on benefit incidence by years, still we can note that our survey have not yet supported the assumption that new policies have a specific financial motivation effect and that specifically poor population have responded the most. More likely, the new policy has positively affected and increased the access to these services but with financial factor not being the most critical one.

Fully or partially free services to the population

Interestingly, the 9 months statistics for 2009 indicate that there is around 40% increase in applications for healthcare services. **Most free or partially free services were received by the lowest two quintiles. This pattern is recorded both for all free or partially free services, but also for individual service types by programs.** This means that the government policies for specific assistance and care of the poorest segments of the population have their proven reflection by the responders. It is especially positive as the government was specifying that intention in their MTEF and budget documentation for last years but there was little objective prove from the beneficiaries side on such claims.

¹⁰ The child births in 2008 and 2009 could not yet be impacted by the 2008-2009 economic crisis. If similar analysis is performed in 2010, then more solid conclusion can be done

Service beneficiaries by quintiles



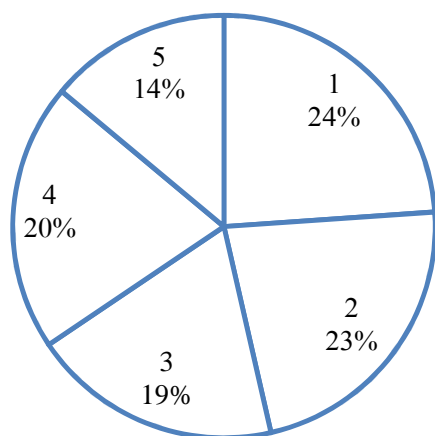
We believe government counterparts will be specifically delighted to receive such prove from the non-governmental sector, however, we would like to stress the importance of such tools in future policy formulation and decision-making processes.

Having said the above, the second side of the coin suggests that there is also a much higher rates of sickness amongst the most vulnerable groups (lowest quintiles). This opinion is brought forward by sector experts. Therefore, having received the above prove of effectiveness and high targeting rates of pro-poor policies, the government must also reflect on the above opinion by introducing more targeted policy initiatives to respond on the issue.

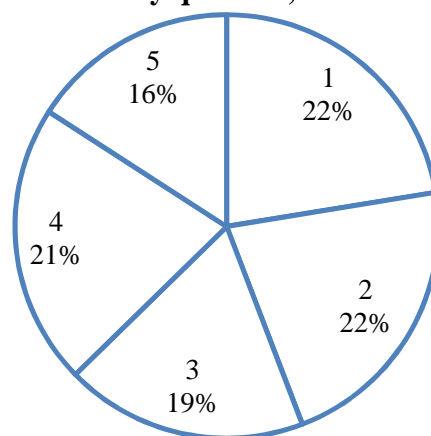
quintiles	Number of beneficiaries of free or partially free healthcare services from the government		Share of beneficiaries of free or partially free healthcare services from the government by quintiles	
	2009	2008	2009	2008
1	211	137	24%	22%
2	199	133	23%	22%
3	169	113	19%	18%
4	181	131	20%	21%
5	123	97	14%	16%
Total	883	611	100%	100%

The table above indicates there is little variation noticed between 2008 and 2009 in terms of the shares of beneficiaries of free and partially free services by quintiles.

Free of partially free services beneficiaries by quintiles, 2009



Free of partially free services beneficiaries by quintiles, 2008



The tables below present the breakdown of the service utilization by the beneficiaries' quintiles and by types of services/programs in 2009 and 2008.

Quintiles	Service utilization by types of services/programs in 2009 (%)					Total
	Public health primary care services	Services of obstetrical-gynecological medical assistance	Hospital medical aid services	Public health services	Paramedical services and other supportive services	
1	23%	24%	28%	13%	0	23,8%
2	23%	31%	14%	33%	0	21,9%
3	19%	12%	19%	17%	100%	18,9%
4	21%	24%	25%	21%	0	21,5%
5	14%	10%	14%	17%	0	13,8%
Total	100%	100%	100%	100%	100%	100%

Quintiles	Service utilization by types of services/programs in 2008 (%)					Total
	Public health primary care services	Services of obstetrical-gynecological medical assistance	Hospital medical aid services	Public health services	Paramedical services and other supportive services	
1	25%	19%	20%	0%	0	23,5%
2	21%	43%	12%	33%	0	21,2%

3	18%	5%	26%	13%	0	18,2%
4	19%	29%	27%	38%	0	21,3%
5	16%	5%	16%	17%	0	15,9%
Total	100%	100%	100%	100%	0%	100%

Use of healthcare public services by the 5th quintile has been declining within the range of the two surveyed years. In 2009 the share of rich within quintiles was 13.8 %, while in 2008 - 15.9%.

The survey has also provided information on another dimension of the healthcare services shares in the country. In particular, the biggest share of service utilization is recorded in the areas the government has announced as priority, i.e. the primary healthcare services, hospital and child birth/pregnancy related services. Within this distribution, the highest rates of services provided to the population are for the primary healthcare – this exactly matches with the top priority of the government in the healthcare of health prevention and treatment at the initial stages.

Programs	Share of programs in total service utilization		Share of service utilization by population	
	2009	2008	2009	2008
Public health primary care services	77.6%	79.0%	10.9%	7.8%
Services of obstetrical-gynecological medical assistance	4.6%	3.3%	0.6%	0.3%
Hospital medical aid services	15.0%	14.0%	2.1%	1.4%
Public health services	2.6%	3.7%	0.4%	0.4%
Paramedical services and other supportive services	0.2%	0.0%	0.0%	0.0%
Total	100%	100%	14.1%	9.8%

Within the survey responders (6539 for 1600 households) 14.1% in 2009 and 9.8% in 2008 have received healthcare services. The change in the number could be a reflection of the increase of access (especially to the primary healthcare services as the outcome of the major policy shifts in recent years). However, it also could indicate an increase in overall decrease of the wellbeing of the population. Extended researches will be required to answer the accuracy of the above statements.

One more dimension to the analysis is to review the distribution of service utilization by urban vs. rural. This is to assess the accessibility level of healthcare in the two above categories as this is also a government policy agenda item.

The distribution of birth services and free or partially free services by urban and rural is presented in the table below. It indicates that the majority of service recipients is urban, however, the general distribution of the population is also so. The general observation is that for both births and

healthcare service from the government, the distribution of it by rural and urban communities reflects the country picture (with some deviation for 2008 birth cases, see the table below).

Thus, although the expert community suggests that there is a service migration towards urban areas, the survey did not prove that, at least for the overall healthcare services level.

Urban/Rural	Survey responders	Number of life births 2009	Number of life births 2008	Free or partially free healthcare services, 2009	Free or partially free healthcare services, 2008
Urban	4066	45	50	533	382
Rural	2473	25	39	350	229
Total	6539	70	89	883	611
Urban	62%	64%	56%	60%	63%
Rural	38%	36%	44%	40%	37%

2009	Public health primary care services	Services of obstetrical-gynecological medical assistance	Hospital medical aid services	Public health services	Paramedical services and other supportive services
Urban	431	31	71	17	1
Rural	282	11	67	7	1
Total	713	42	138	24	2
Urban	60%	74%	51%	71%	50%
Rural	40%	26%	49%	29%	50%

2008	Public health primary care services	Services of obstetrical-gynecological medical assistance	Hospital medical aid services	Public health services	Paramedical services and other supportive services
Urban	312	18	46	13	0
Rural	196	3	44	11	0
Total	508	21	90	24	0
Urban	61%	86%	51%	54%	0%
Rural	39%	14%	49%	46%	0%

It is quite interesting that in contrast to the services that are paid or partially paid by the government, the households' own expenditures on healthcare services are significantly higher (around 75% of expenses by 40% of the population) at the 4th and 5th quintiles (especially 5th for 2009)¹¹. This finding partially decreases the expertise assumption above on poorest segments having significantly higher level of healthcare problems. At least, the households' own expenditures tables indicate that there is also a high portion of financial responses to healthcare issues at the two highest quintiles too. It may turn out that the two highest quintiles basically prefer paid services due to potentially higher quality of such services.

¹¹ See detailed tables on this in Annex C

For some healthcare services, however, the free access to those is available solely to the poorest quintile representatives, so this also could be a factor in such a high pro-poor distribution of healthcare services in Armenia. Figures supporting this approach are the ones that the majority of households' own expenditures are paid for hospital services (although number of beneficiaries is significantly higher in primary healthcare services).

In any case, although the general pattern of healthcare benefit incidence is pro-poor oriented, however, the sector is quite complicated and government must proactively respond to the challenges on social aspects of healthcare services.

WATER

The average drinking water consumption at households is 1695 AMD per month or 1.08% of total HH expenditures. Meanwhile, the average expenditure for irrigation is 866AMD or 0.5%.

Share of water sector beneficiaries in total population, by programs and expenditure quintiles					
	1 (lowest)	2	3	4	5 (highest)
Drinking Water Supply	86.9	90.3	90.9	93.8	95.3
Sewerage	74.4	70.9	74.4	74.1	78.4
Irrigation	22.2	27.8	26.6	24.4	24.4

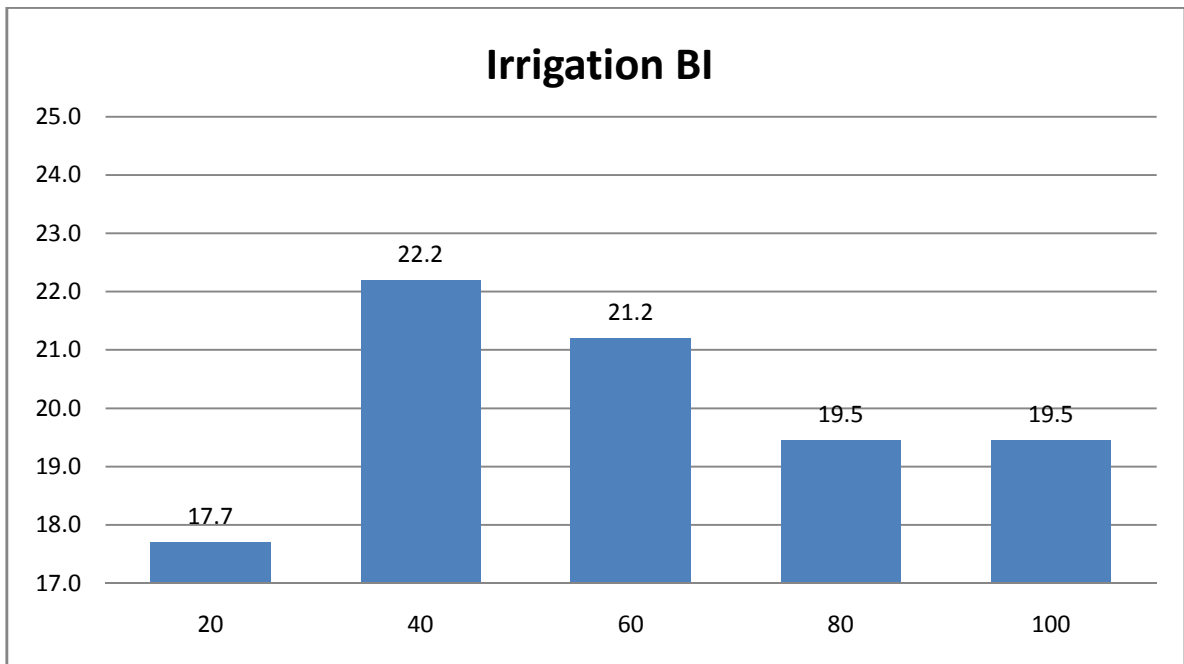
Benefit incidence of programs, by quintiles					
	1 (lowest)	2	3	4	5 (highest)
Drinking Water Supply	19	19.8	19.9	20.5	20.8
Sewerage	20	19	20	19.9	21.1
Irrigation	17.7	22.1	21.2	19.5	19.5

According to the budgeting information, the government has invested in the irrigation system the most. However, the share of the population using the irrigation system is quite small (the smallest amongst the water sector programs) and is only 25%. Meanwhile, the survey results indicate that this program's most beneficiaries are in the 2nd and 3rd quintiles, which is both positive and explainable.

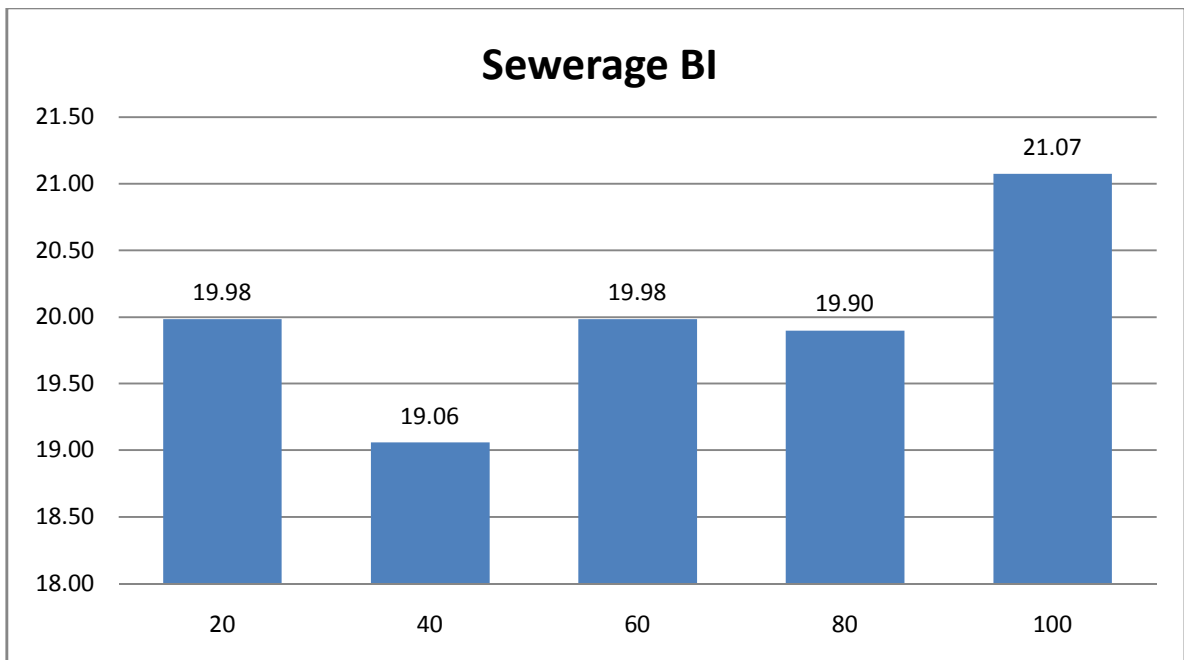
The lowest portion of investments were made in the sewerage (water sanitation) systems, although 74.4% of households indicated they are users of sewerage system.

The biggest share in terms of using the services is in the drinking water supply program – 91.4%.

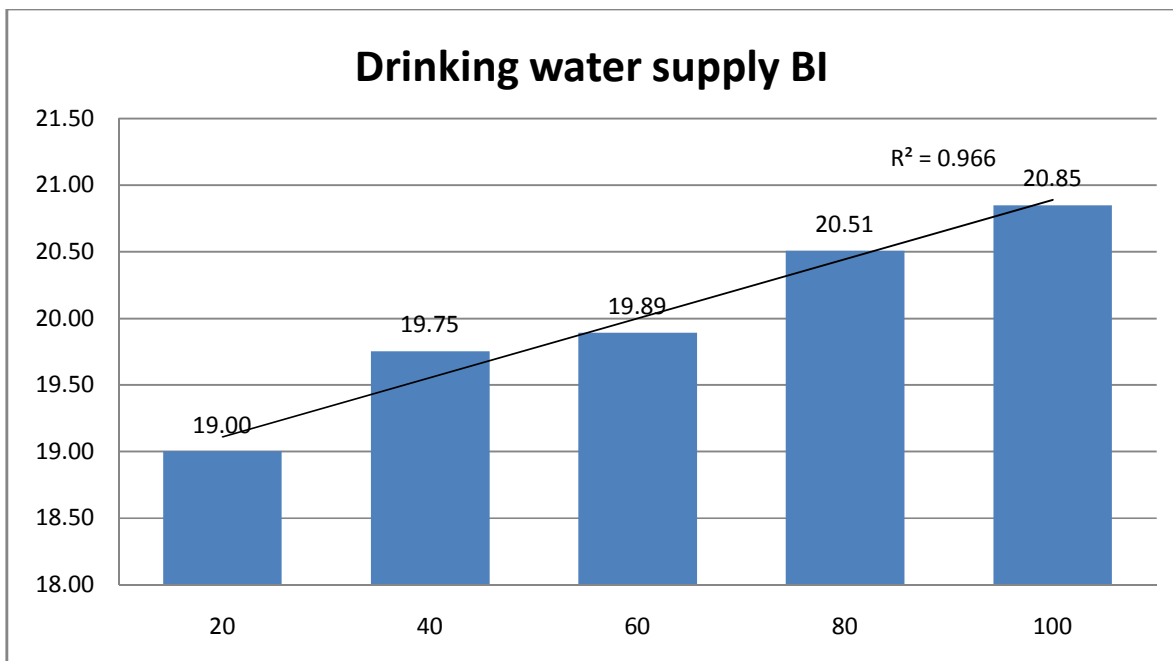
The patterns of benefit incidence are quite different by programs. The rapid increase and then the smooth downwards move by quintiles is logical as that is the segment of the population that mostly is engage in the agriculture (lower middle and middle quintiles).



The pattern of the benefit incidence in the sewerage program is hardly explainable at this stage of the analysis. In fact, this program is comparatively low priority, so it will be difficult to invest resources in substantiating of the reason for such behavior of the benefit incidence in Armenia and then recommending to change the existing policies.



The most interesting pattern is registered for the Drinking water supply program. And the most important finding is not the pattern of the benefit incidence (in fact it was expected by our team) but the follow-up conclusions or suggestions.



The idea of having subsidy in any area is justified by the need of the government to compensate private operating companies the deficit in revenues due to the lower than market prices/fees for the services provided. And the rationale for the government to fix lower prices is (as a primary consideration) to support the poorest households in getting the normal volume of specific services that are important for wellbeing. The secondary consideration could be to motivate or force the private companies to employ standard pricing policy for the whole country regardless of specific regional variations and investment needs. And what we see in the benefit incidence analysis is that the government, de facto, does not employ the first rationale for using subsidies, i.e. assisting the poorest families. The pattern above indicates that the richer quintiles of the population in fact get more out of the subsidization scheme than the poorest ones. Thus, the whole idea of having subsidized water supply program has turned the other way around by which the collected taxes from all segments of the population is distributed to all of them back, BUT with more distributed to the richer segments.

CHALLENGES TO CONDUCTING THIS WORK

During the implementation of Benefit Incidence Analysis in education sector the following challenges were faced:

1. **Estimated school enrollment:** When calculating estimated school enrollment levels by expenditure quintiles and educational levels based on total population and the size of the sample, the total enrollments per educational levels for the dates mentioned in the first bullet

point were in average 20% higher than actual enrollment figures at hand. To avoid this discrepancy between actual and estimated enrollment rates, actual total enrollments per educational levels in school year basis used for unit subsidy calculations were distributed among quintiles based on % share of quintiles in the total enrollment for the certain educational level.

2. **Sample household expenditures:** The results of the sample household expenditures per educational levels and expenditure quintiles for 2008 and 2009 were difficult to explain, since there was no obvious trend in those expenditures across quintiles for both years: poorests and richest were spending almost the same amounts on education, and fluctuations in spendings between quintiles looked quite strange.

There is also an unexplained pattern of benefit incidence in some health services when the 4th quintile has behaved against the general trends of the other quintiles.

POSSIBLE EXTENSIONS

The most critical findings of this BI analysis are the ones in education and water sector. For instance, the finding in the water sector indicates that the benefit distribution for the drinking water supply program is not pro-poor. Of course, the water supply system itself must not be pro-poor as the policy itself is not poverty-specific. However, the government has chosen an intervention method, i.e. subsidizing water supply system, which is (almost by its definition) pro-poor as it compensates private water supply operating companies for lower than market prices for drinking water supply. As we see in the graph for drinking water supply benefit incidence there is a very strong ($R^2=0.96$) correlation between the level of poverty and use of water. The variations between the quintiles are not very strong, but still prove the fact that the subsidizing policy is of more beneficial to the middle and furthermore richer parts of the population.

This report cannot fully rely on BIA as a basis for recommendation to the government to change the existing policies (as there could be other than pure economic reasons for subsidizing the drinking water supply system such as enforcement for equal distribution of infrastructure development and other) however, it calls for an attention to the raised issue. Thus, one of the possible extensions could be further analysis of the sector and provision of an adequate advice to the government authorities on policy alternatives and design. As one of the possible solutions could be coordination and alignment of the interventions of the Ministry of Labor and Social Affairs to adequately respond to the finding. Another possibility could be much explicit distinction of economic vs. non-economic reasons for subsidizing water supply companies and possible adjustment to the subsidy formula to incorporate finding results and stronger use of specific factors of the formula for non-economic reasons. All above could potentially free up some funds from the subsidy amounts and re-distribute those to the most relevant quintiles via interventions of the Ministry of Labor and Social Issues.

Anyway, this is an important area where we find the results of this report may assist Armenian government in re-thinking the policy in water supply programs and potentially employ other forms of “subsidizing” the poor by possibly using intervention mechanisms of the Ministry of Labor and Social Issues (with more targeted pro-poor instruments).

The reasons above are not fully applicable to the other programs in the water sector. In particular, the benefit incidence pattern for irrigation program is mostly disposed towards the 2nd and 3rd quintiles, which is very much correlated with the assumptions on which quintiles would be more

engaged in agriculture activities and so utilize the most of the irrigation resources. In any case, the existing pattern (unlike the case with drinking water supply) does not create issues and warning messages that need to be communicated to the government counterparts for policy adjustments.

In education sector we identified several cases where the government might consider the findings very important to start policy adjustment initiatives. The most important one is the significantly higher enrollment (benefit incidence) in the high education system by richer quintiles. This is not a pure education sector issue, but such practice will create a vicious cycle for poor to remain as poor (and we expect it will increase after recent reforms for high schools come into full effect). This report does not suggest that some policy in education sector will fully equalize the benefit incidence by quintiles, however we call for an attention to decrease the huge gap that currently exists (4 times between the lowest and the highest quintiles).

PLANS FOR DISSEMINATION/COMMUNICATIONS

The findings of this analysis will be communicated to the main stakeholders, Ministry of Education, Ministry of Health and State Water Management Committee.

The main goal for this communication is to transfer additional information on benefit incidence by social groups (expenditure-wise) so the policy makers can use this information in future policy making.

The communication will take place closer to the MTEF process, which takes place every January-May period as the strategic phase of the annual budgeting process. The aim for communicating this report at MTEF stage is to fit into the budget decision-making cycle of the Armenian government. MTEF is the most important (if not the only) period when policy decision (adjustments to the existing policies) are made in close correlation with the annual budgets (funds allocation). Thus, it is the most optimal stage when communication must take place.

Besides, this report will be communicated to the Ministry of Labor and Social Issues and Ministry of Finance. As mentioned above, this ministry is primarily responsible for social-oriented policies and poverty-wise coordination of relevant sector policies in the country. This ministry can be specifically important to compensate some of the non-poor inclinations of the existing policies in education, health and water sectors.

ANNEXES

Annex A: State Budget Healthcare Programs/Services

I. Public health primary (ambulatory-polyclinic) care services

1. Primary health care services
2. Early diagnosis, health evaluation and treatment services among the population involved in high risk groups
3. Hemodialysis services
4. Services of medical assistance of narrow specialization
5. Medical services for the treatment of separate diseases and diseases requiring continuous medical supervision
6. Services for orthodontological medical assistance
7. Services for dental medical assistance
8. Dental and primary prevention services for children
9. Services of urgent medical assistance
10. Services of laboratory diagnostic examinations
11. Services of medical assistance and examination of men of military and pre-military age

II. Services of obstetrical-gynecological medical assistance

1. Services of obstetrical-gynecological medical assistance/PHC
2. Services of obstetric medical assistance/HC
3. Services of medical assistance for gynecological diseases/HC

III. Hospital medical aid services

1. Services of urgent medical assistance
2. Implementation of medical assistance for people included in socially vulnerable and special groups
3. TB medical assistance services
4. Services of medical assistance for intestinal and other infectious diseases
5. Services of medical treatment of sexually transmitted diseases
6. Services for treatment and care of mentally ill and drug-addicted patients
7. Services of medical assistance for oncological and blood diseases
8. Rehabilitation medical services
9. Services of medical assistance and examination for people of pre-military and military ages
10. Services of medical assistance to the victims of trafficking
11. Services of medical assistance for children
12. Fundamental renovation of health institutions (MoH, MUD)

IV. Public health services

1. Hygiene and anti-epidemic expertise services
2. Hygiene and anti-epidemic services
3. Prevention of specially dangerous infections
4. HIV / AIDS prevention and treatment
5. Services of disinfection of breeding grounds of infectious
6. Blood storing services
7. Services for the implementation of the National Immunity programme
8. Fundamental renovation of health institutions (Vayots Dzor Marzpetaran)
9. WB Bird Flu prevention program

V. Paramedical services and other supportive services

1. Reimbursement of traveling expenses of the patients assigned for medical treatment abroad
2. Complex diagnostic services
3. Implementation of expertise and methodological services of the drug policy
4. WB Program for the health sector modernization
5. Japanese Government Grant WB program for the health sector modernization
6. WB Bird Flu prevention program
7. Japanese Government Grant WB program of Bird Flu control
8. WB Second loan program of health system modernization
9. Forensic medical and genetic services
10. Path anatomic services
11. Medical assistance services to disabled children
12. Public awareness services
13. Professional, consultation and organizational-methodical support services
14. Other medical care and services
15. Services of receiving, customs clearance and distribution of drugs and pharmaceutical products as humanitarian aid
16. Services supporting the national program of combating tuberculosis
17. Japanese Government Grant program for co-financing WB program of Bird Flu control
18. UK financial aid for development program Gegharqunik and Tavush Marzes
19. Procurement of medical equipment
20. Procurement of medicine

VI. Healthcare sector policy formulation

1. Policy development and provision of services in the Health sector

Annex B: Education sector benefit incidence calculation details

Financing of Educational Institutions Recurrent Costs (associated with educational process)

	2006			2007			2008			2009		
	Number of state-financed students	Total recurrent financing (000 AMD)	Per student financing (000 AMD)	Number of state-financed students	Total recurrent financing (000 AMD)	Per student financing (000 AMD)	Number of state-financed students	Total recurrent financing (000 AMD)	Per student financing (000 AMD)	Number of state-financed students	Total recurrent financing (000 AMD)	Per student financing (000 AMD)
General Education	467,065	45,141,897	97	447,671	52,094,843	116	420,239	59,754,771	142	403,571	76,042,552	188
1. Primary School	121,482	12,188,312	100	123,701	14,586,556	118	117,488	15,857,317	135	110,177	20,672,265	188
2. Middle School	244,061	23,022,368	94	227,523	26,568,370	117	216,536	30,009,407	139	207,332	39,526,445	191
3. High School	101,522	9,931,217	98	96,447	10,939,917	113	86,215	13,888,047	161	86,062	15,843,842	184
Initial Professional and Middle Professional Vocational Education	24,388	2,771,042	114	25,232	3,410,663	135	25,485	3,874,187	152	25,640	5,035,621	196
1. Initial Professional Vocational Education	3,236	1,014,486	313	4,008	1,282,477	320	4,176	1,485,613	356	4,483	1,984,319	443
2. Middle Professional Vocational Education	21,152	1,756,556	83	21,224	2,128,186	100	21,309	2,388,573	112	21,157	3,051,302	144
Higher Education	21,987	4,954,129	225	22,002	5,257,579	239	22,048	6,659,411	302	22,282	7,682,329	345
1. Higher (Undergraduate and Graduate) Professional Education	20,688	4,575,158	221	20,748	4,941,524	238	20,878	6,098,024	292	21,199	7,082,071	334
2. Post-Graduate Professional Education	1,299	378,971	292	1,254	316,055	252	1,170	561,387	480	1,083	600,258	554
Total Education Financing	513,440	52,867,068	103	494,905	60,763,085	123	467,772	70,288,369	150	451,493	88,760,502	197

Unit costs by programs: Total State Budget Financing

	2006			2007			2008			2009		
	Number of state-financed students	Total State budget financing (000 AMD)	Per student financing (000 AMD)	Number of state-financed students	Total State budget financing (000 AMD)	Per student financing (000 AMD)	Number of state-financed students	Total State budget financing (000 AMD)	Per student financing (000 AMD)	Number of state-financed students	Total State budget financing (000 AMD)	Per student financing (000 AMD)
General Education	467065	65595196	140	447671	77511613	173	420239	86317601	205	403571	107425519	266
1. Primary School	121482	18051921	149	123701	22382147	181	117488	23989315	204	110177	29139324	264
2. Middle School	244061	33211459	136	227523	39046286	172	216536	41747363	193	207332	53838105	260
3. High School	101522	14331816	141	96447	16083180	167	86215	20580924	239	86062	24448090	284
Initial Professional and Middle Professional Vocational Education	24388	2842042	117	25232	3508840	139	25485	6751168	265	25640	5636619	220
1. Initial Professional Vocational Education	3236	1014486	313	4008	1292177	322	4176	2874659	688	4483	2096833	468
2. Middle Professional Vocational Education	21152	1827556	86	21224	2216663	104	21309	3876509	182	21157	3539786	167
Higher Education	21987	5302409	241	22002	5498406	250	22048	6838492	310	22282	8018809	360
1. Higher (Undergraduate and Graduate) Professional Education	20688	4923438	238	20748	5175607	249	20878	6277105	301	21199	7418551	350
2. Post-Graduate Professional Education	1299	378971	292	1254	322799	257	1170	561387	480	1083	600258	554
Total Education Financing	513440	73739647	144	494905	86518860	175	467772	99907261	214	451493	121080946	268

Estimated School Enrollment Level by Expenditure Quintile and Facility Level (Based on actual enrollment figures)

2008	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Total
<u>General Education</u>	103059	93771	90323	79022	54064	420239
1. Primary School	31830	28787	26212	15915	14745	117488
2. Middle School	55662	46276	45403	43875	25321	216536
3. High school	15567	18708	18708	19232	13998	86215
<u>Initial Professional and Middle Professional Vocational Education</u>	4215	5415	7224	5616	3015	25485
1. Initial Professional Vocational Education	597	1193	1193	1193	0	4176
2. Middle Professional Vocational Education	3618	4222	6031	4423	3015	21309
<u>Higher Education</u>	1807	2741	3836	5361	8301	22048
1. Higher (Undergraduate and Graduate) Professional Education	1807	2508	3836	5127	7599	20878
2. Post-Graduate Professional Education	0	233	0	234	702	1170
Total	109081	101927	101383	89999	65380	467772

2009	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Total
<u>General Education</u>	104618	90212	85924	72075	50743	403572
1. Primary School	30237	27751	23195	16361	12633	110177
2. Middle School	57797	42888	41512	38531	26605	207332
3. High school	16584	19573	21217	17183	11505	86062
<u>Initial Professional and Middle Professional Vocational Education</u>	4039	6191	6381	6004	3022	25640
1. Initial Professional Vocational Education	639	1280	1281	1281	0	4483
2. Middle Professional Vocational Education	3400	4911	5100	4723	3022	21157
<u>Higher Education</u>	1800	2789	3437	5616	8640	22282
1. Higher (Undergraduate and Graduate) Professional Education	1800	2519	3347	5435	8098	21199
2. Post-Graduate Professional Education	0	270	90	181	542	1083
Total	110457	99192	95742	83695	62405	451494

Distribution of Benefits of Education Expenditures (000 AMD), by Expenditure Quintile and Facility (3E)

2008	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Total
<u>General Education</u>	20,946,745.8	19,265,630.9	18,571,542.7	16,299,541.7	11,234,059.5	86,317,520.7
1. Primary School	6,499,216.0	5,877,880.3	5,352,103.4	3,249,608.0	3,010,711.3	23,989,519.0
2. Middle School	10,731,433.6	8,921,846.5	8,753,535.2	8,458,942.3	4,881,797.8	41,747,555.4
3. High school	3,716,096.3	4,465,904.1	4,465,904.1	4,590,991.4	3,341,550.4	20,580,446.3
<u>Initial Professional and Middle Professional Vocational Education</u>	1,069,143.0	1,589,294.2	1,918,385.5	1,625,859.9	548,485.4	6,751,168.0
1. Initial Professional Vocational Education	410,960.5	821,232.7	821,232.7	821,232.7	0.0	2,874,658.6
2. Middle Professional Vocational Education	658,182.5	768,061.5	1,097,152.8	804,627.2	548,485.4	3,876,509.4
<u>Higher Education</u>	543,286.2	865,843.9	1,153,318.1	1,653,743.0	2,621,520.5	6,837,711.8
1. Higher (Undergraduate and Graduate) Professional Education	543,286.2	754,046.4	1,153,318.1	1,541,465.6	2,284,688.4	6,276,804.7
2. Post-Graduate Professional Education	0.0	111,797.6	0.0	112,277.4	336,832.1	560,907.1
Total	22,559,175.1	21,720,769.1	21,643,246.3	19,579,144.6	14,404,065.4	99,906,400.5

2009	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Total
<u>General Education</u>	27,716,311.5	24,036,487.2	22,941,240.8	19,213,763.4	13,517,975.9	107,425,778.8
1. Primary School	7,997,002.4	7,339,511.6	6,134,552.7	4,327,114.3	3,341,142.7	29,139,323.8
2. Middle School	15,008,204.0	11,136,769.2	10,779,462.0	10,005,382.8	6,908,546.6	53,838,364.5
3. High school	4,711,105.2	5,560,206.3	6,027,226.1	4,881,266.3	3,268,286.6	24,448,090.5
<u>Initial Professional and Middle Professional Vocational Education</u>	867,734.7	1,420,355.5	1,452,444.9	1,389,368.9	505,612.0	5,635,515.9
1. Initial Professional Vocational Education	298,879.4	598,694.2	599,161.9	599,161.9	0.0	2,095,897.5
2. Middle Professional Vocational Education	568,855.3	821,661.3	853,282.9	790,206.9	505,612.0	3,539,618.4
<u>Higher Education</u>	629,906.7	1,031,168.1	1,221,159.4	2,002,288.3	3,134,286.1	8,018,808.6
1. Higher (Undergraduate and Graduate) Professional Education	629,906.7	881,519.4	1,171,276.5	1,901,968.2	2,833,880.1	7,418,550.8
2. Post-Graduate Professional Education	0.0	149,648.8	49,882.9	100,320.1	300,406.0	600,257.8
Total	29,213,952.9	26,488,010.8	25,614,845.1	22,605,420.5	17,157,874.0	121,080,103.3

Distribution of Benefits of Education Expenditures (%), by Expenditure Quintile and Facility (3E)

2008	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Total
<u>General Education</u>	24%	22%	22%	19%	13%	100%
1. Primary School	27%	25%	22%	14%	13%	100%
2. Middle School	26%	21%	21%	20%	12%	100%
3. High school	18%	22%	22%	22%	16%	100%
<u>Initial Professional and Middle Professional Vocational Education</u>	16%	24%	28%	24%	8%	100%
1. Initial Professional Vocational Education	14%	29%	29%	29%	0%	100%
2. Middle Professional Vocational Education	17%	20%	28%	21%	14%	100%
<u>Higher Education</u>	8%	13%	17%	24%	38%	100%
1. Higher (Undergraduate and Graduate) Professional Education	9%	12%	18%	25%	36%	100%
2. Post-Graduate Professional Education	0%	20%	0%	20%	60%	100%
Total	23%	22%	22%	20%	14%	100%

2009	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Total
<u>General Education</u>	26%	22%	21%	18%	13%	100%
1. Primary School	27%	25%	21%	15%	11%	100%
2. Middle School	28%	21%	20%	19%	13%	100%
3. High school	19%	23%	25%	20%	13%	100%
<u>Initial Professional and Middle Professional Vocational Education</u>	15%	25%	26%	25%	9%	100%
1. Initial Professional Vocational Education	14%	29%	29%	29%	0%	100%
2. Middle Professional Vocational Education	16%	23%	24%	22%	14%	100%
<u>Higher Education</u>	8%	13%	15%	25%	39%	100%
1. Higher (Undergraduate and Graduate) Professional Education	8%	12%	16%	26%	38%	100%
2. Post-Graduate Professional Education	0%	25%	8%	17%	50%	100%
Total	24%	22%	21%	19%	14%	100%

Annex C: Healthcare households' expenditures (as per survey results)

Households expenditures in 2009, Armenian Drams (for 1600 households)

Quintiles	Public health primary care services	Services of obstetrical-gynecological medical assistance	Hospital medical aid services	Public health services	Paramedical services and other supportive services	Total
1	1 079 020	106 000	1 042 000	5 000	0	2 232 020
2	2 885 700	302 000	1 445 000	110 000	0	4 742 700
3	3 332 500	190 000	4 285 500	110 000	0	7 918 000
4	6 424 000	870 000	5 202 500	155 000	0	12 651 500
5	8 984 590	570 000	15 520 098	504 000	150 000	25 728 688
Total	22 705 810	2 038 000	27 495 098	884 000	150 000	53 272 908

Households expenditures in 2009, % (for 1600 households)

Quintiles	Public health primary care services	Services of obstetrical-gynecological medical assistance	Hospital medical aid services	Public health services	Paramedical services and other supportive services	Total
1	5%	5%	4%	1%	0%	4,2%
2	13%	15%	5%	12%	0%	8,9%
3	15%	9%	16%	12%	0%	14,9%
4	28%	43%	19%	18%	0%	23,7%
5	40%	28%	56%	57%	100%	48,3%
Total	100%	100%	100%	100%	100%	100%

Households expenditures in 2008, Armenian Drams (for 1600 households)

Quintiles	Public health primary care services	Services of obstetrical-gynecological medical assistance	Hospital medical aid services	Public health services	Paramedical services and other supportive services	Total
1	1 763 000	235 000	1 938 000	615 000	0	4 551 000
2	3 070 000	585 000	2 068 000	0	0	5 723 000
3	2 426 800	1 078 000	5 452 500	160 000	0	9 117 300
4	4 969 500	491 000	9 542 500	3 160 000	0	18 163 000
5	7 129 000	380 000	15 688 000	385 000	600 000	24 182 000
Total	19 358 300	2 769 000	34 689 000	4 320 000	600 000	61 736 300

Households expenditures in 2008, % (for 1600 households)

Quintiles	Public health primary care services	Services of obstetrical-gynecological medical assistance	Hospital medical aid services	Public health services	Paramedical services and other supportive services	Total
1	9%	8%	6%	14%	0%	7,4%
2	16%	21%	6%	0%	0%	9,3%
3	13%	39%	16%	4%	0%	14,8%
4	26%	18%	28%	73%	0%	29,4%
5	37%	14%	45%	9%	100%	39,2%
Total	100%	100%	100%	100%	100%	100%

Annex D

BIA tables in GDN program classification (for cross-country benchmarking)

Per-student Government Subsidy for School Enrollment, by Facility Level (1E) for 2008

<i>Education</i>	Unit Subsidy (thousands AMD)
Primary Education	204
Secondary Education	212
Tertiary Education	247

Estimated School Enrollment Level by Expenditure Quintile and Facility Level (2E)¹²

<i>Education</i>	Expenditure Quintile				
	1 (lowest)	2	3	4	5 (highest)
Primary Education	34488	28658	26230	16515	14086
Secondary Education	69733	67201	66360	65416	41333
Tertiary Education	5207	7133	9895	10067	11031

Distribution of Benefits of Education Expenditures (%), by Expenditure Quintile and Facility (3E)

<i>Education</i>	Expenditure Quintile				
	1 (lowest)	2	3	4	5 (highest)
Primary Education	29%	24%	22%	14%	12%
Secondary Education	22%	22%	21%	21%	13%
Tertiary Education	11%	16%	21%	23%	29%

¹² More detailed information is available in Annex B