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## Caucasus and Central Asia (CCA) Review

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## Social assistance and poverty reduction in Armenia

Mushegh Tumasyan

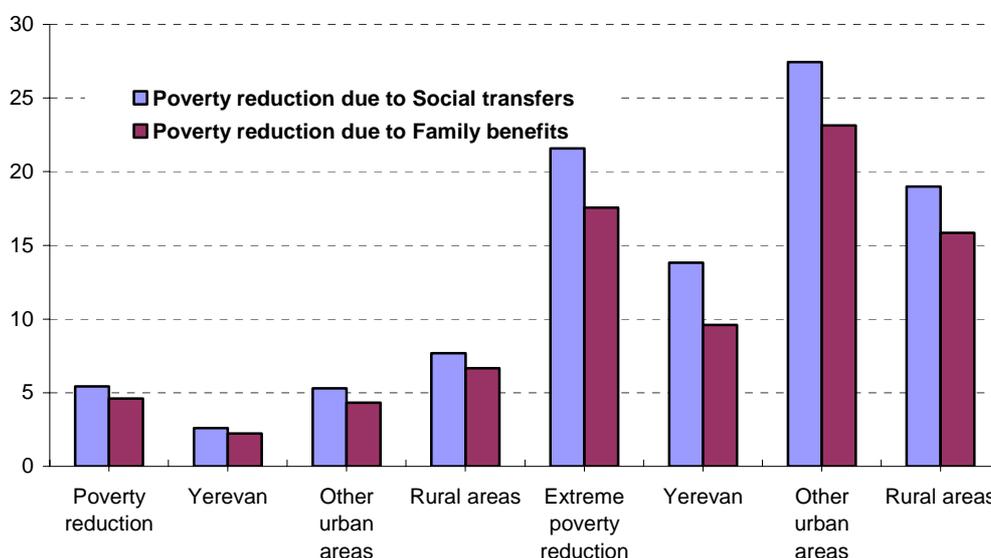
The article discusses the impact of the main social assistance program – the Family Benefit System (FBS) - on poverty reduction in Armenia. The analysis confirms that the FBS is progressive and promotes poverty reduction. However, the targeting of FBS is far from being perfect, i.e. many poor and extremely poor families are excluded from it and non-poor families are included instead of them.

Social assistance programs in Armenia are mostly funded and implemented by the government (state budget). Moreover, the State Social Insurance Fund implements the public programs in social insurance of Armenian citizens (pension insurance).

The state social budget in Armenia is not very large; it is around 2% of GDP<sup>1</sup>. This is quite small compared to Eastern European countries. The main program of the state’s social assistance is the FBS, which is targeted to poor families.

In 2004, according to the Household Survey of the NSS<sup>2</sup>, 29.5% of all Armenian households (representing 34.6% of total population) lived below the national poverty line, with 5.2% of households being categorized as extremely poor (6.4% of total population). In spite of this, only about 16-17% of Armenian households received family benefits. Family benefits and other social transfers have alleviated both poverty and extreme poverty in Armenia.

**Chart 1. Impact of social programs on poverty reduction (%)**



Source: EDRC, own calculations

1 Does not include State Social Insurance Fund Budget

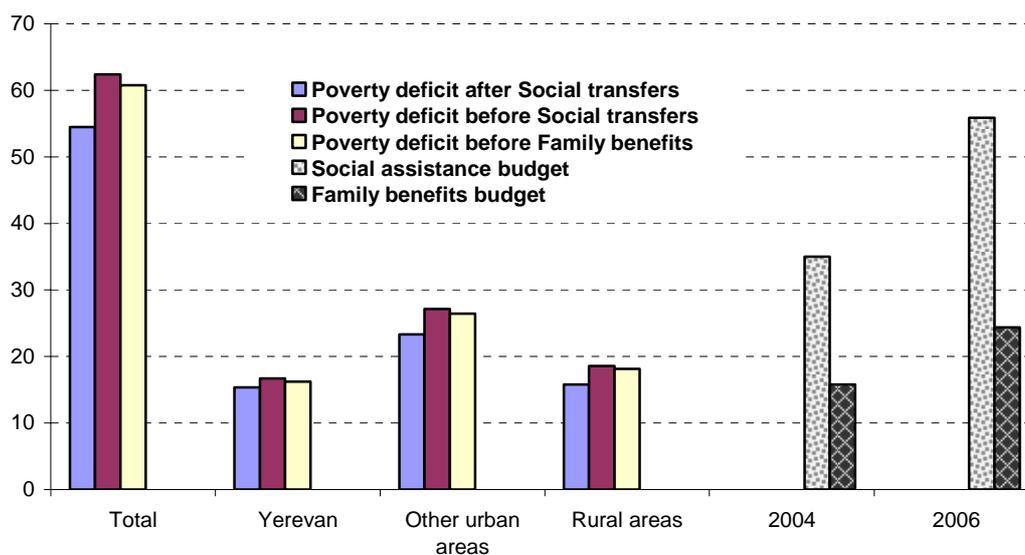
2 Integrated Living Conditions Survey, National Statistical Service of RA

Had state benefits and assistance programs been not implemented in Armenia, poverty incidence would have reached 36.6% of total population<sup>3</sup> (against the actual 34.6%) in 2004, whereas extreme poverty would have been as high as 8.2% (against the actual 6.4%). I.e. poverty was reduced by 2 percentage points (about 5.4%) in 2004 only due to social assistance programs (not taking into account the impact of other social pensions), whereas extreme poverty by 1.8 percentage points (21.6%). The largest impact on poverty reduction can be attributed to the main state social program – FBS. (Chart 1) As a result of FBS, poverty was reduced by 1.7 percentage points (4.6%), whereas extreme poverty by 1.4 percentage points- (17.6%). Poverty reduction was most prominent in small and medium sized cities (by 23%) and in rural areas (16%).

The poverty gap in Armenia was 21.3% in 2004. This implies that AMD 4129<sup>4</sup> per month would suffice to get over the national poverty line for an average poor person. If aggregated for all the poor population, this would amount to AMD 54.5 billions on an annual basis. I.e., apart from the existing social programs and transfers, additional AMD 55 billions (probably leading to an increase of the same magnitude in the expenditures of the poor) were necessary in order to have the entire population living above the national poverty line.

Total public social assistance and social insurance has reduced the gap in the expenditures of the poor by 38%, whereas public benefits and other financial transfer programs (excluding all types of pensions) by 12.7%.

**Chart 2. Poverty deficit and social assistance programs (AMD billion)**



Source: EDRC and author's calculations

To put together, if no public programs of transfers and benefits were implemented, the poverty gap in 2004 would equal 23.1% with poverty deficit reaching AMD 62 billions<sup>5</sup>. This amount – i.e. the necessary size of

3 Calculations do not include social and other pensions; i.e. e. current expenditures are calculated excluding family benefits, one-off financial assistance and other assistance with the assumption that the absence of such incomes would decrease the expenditure of households by the same amount

4 Total poverty line equaled AMD 19373. Source: Armenia Social Snapshot and Poverty, NSS RA, Yerevan 2006.

5 Calculations do not include social and other pensions, i.e. current expenditures are calculated excluding family benefits, one-off financial assistance and other assistance.

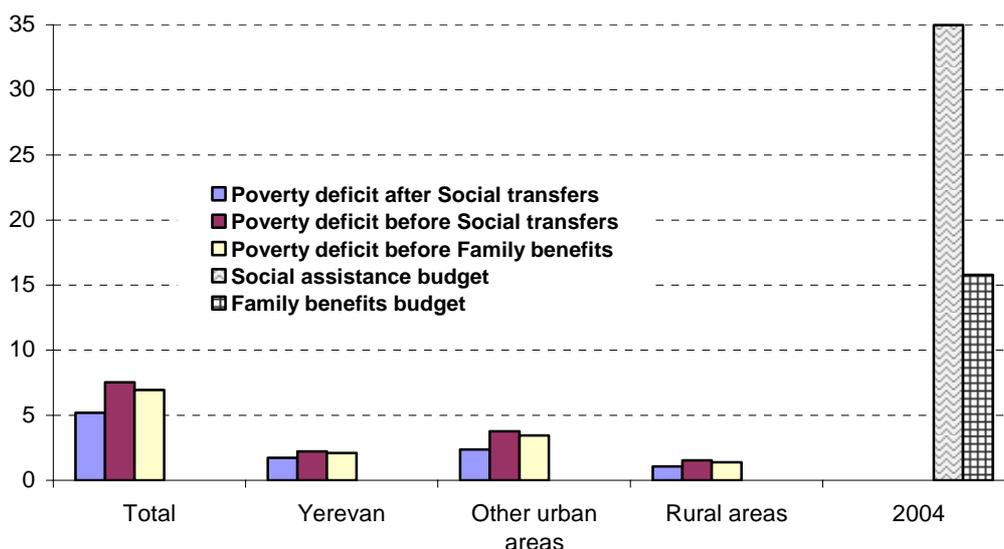
additional expenditures is in excess of the total budget for social assistance programs<sup>6</sup> by some 70% (three times of that of the FBS budget).

The total budget of all public social programs would not be sufficient to eliminate poverty even if distributed directly to the poor as financial transfers. Even under perfect targeting this amount of money would be sufficient to get out of poverty only for some of the poor mostly in rural areas.

The amount necessary to overcome extreme poverty is much smaller and can be effectively covered by public benefits. The extreme poverty gap is 17%, which suggests that, on an annual basis, AMD 5.2 billions are required to overcome extreme poverty. If no family benefits were paid, about AMD 7 billions would be required annually.

Thus in 2004, to overcome extreme poverty (lift everyone over the extreme poverty line) in Armenia, no huge investments would be required. To that end, under perfect targeting, 44% of the 2004 FBS budget would have been sufficient. For example, if the total budget for FBS, under perfect targeting, was distributed in such a way that all extremely poor households were raised above the extreme poverty line, the remaining amount of the 2004 FBS budget would be sufficient to pay monthly AMD 2898 to each poor household.

**Chart 3. Extreme poverty deficit and budget expenditures on social assistance (AMD billion)**



Source: EDRC and author's calculations

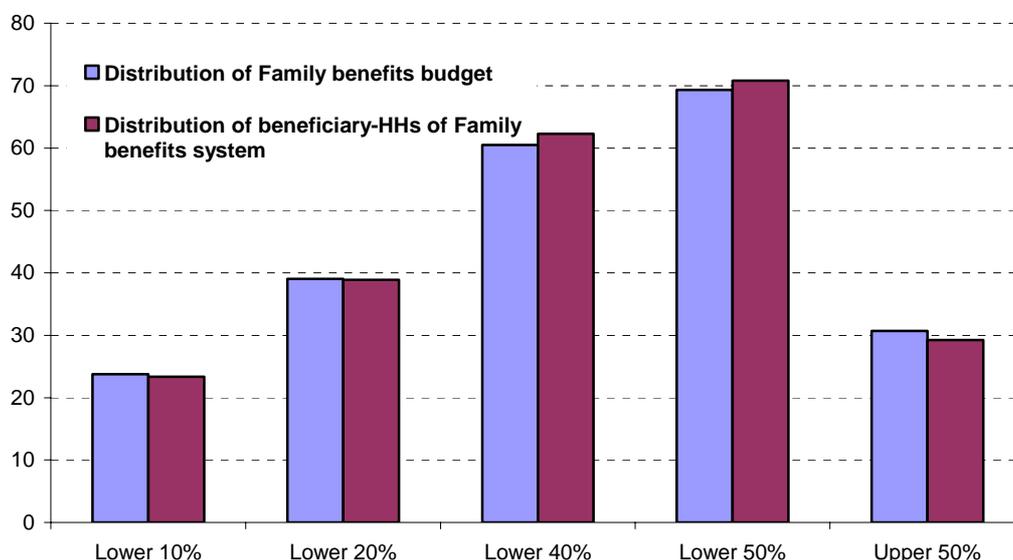
Under the current formula for targeting family benefits - poverty scoring formula - more resources were paid to the poor than it would be in case of no targeting efforts were taken; thus, the FBS is progressive. Progressiveness coefficient in the first decile is 1.4: this suggests that under the current targeting system (as a result of existing inclusion constraints and requirements applied) the poorest 10% of the population received 40% more resources from the state budget than they would if no targeting was done. For the poorest 20%, this coefficient decreases to 1.3, whereas for the poorest 40% to 1.2. Although the system is progressive, it is not efficient.

The actual number of households that are paid benefits are two times that of extremely poor households, whereas the FBS budget in 2004 exceeded the extreme poverty deficit almost two times. However, 62% of

<sup>6</sup> Refers only to the State Budget and does not include the Budget of the State Social Insurance Fund.

extremely poor households were not included in the FBS, neither were 76% of poor households. Meanwhile, 30% of the FBS budget was distributed among households in the non-poor population (that takes up 50% of total population).

**Chart 4. Distribution of family benefits budget and its beneficiaries per consumption quintiles\***

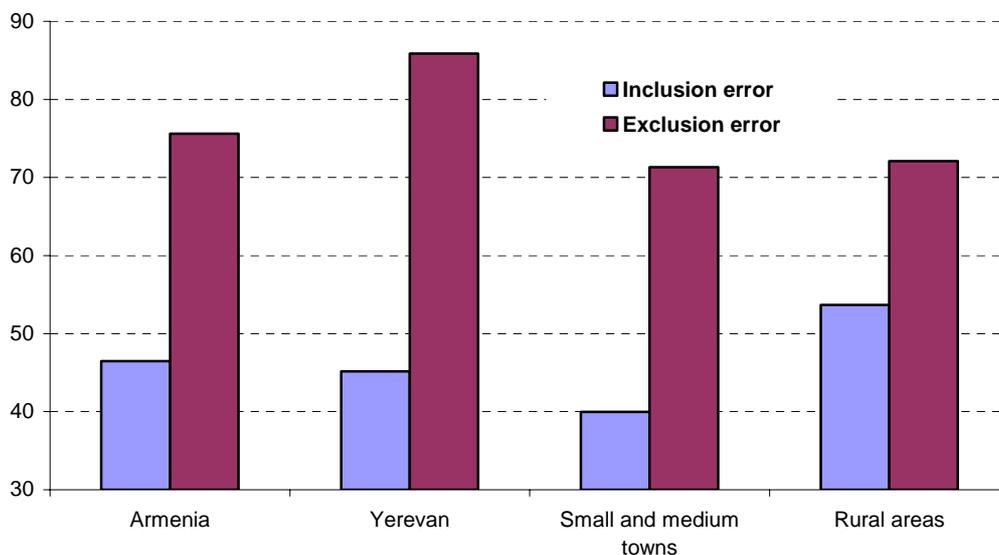


*Note: Lowest 10% is the poorest 10% of the population or the first decile for consumption, whereas the upper 50% is the wealthiest 50% of the population*

*Source: EDRC and author's calculations*

According to the 2004 Household Survey, only 18% of beneficiary-households is extremely poor, 36% is poor and 47% is non-poor. Thus, the inclusion error in 2004 was 46.5%, whereas the exclusion error was 75.6%. The inclusion error is highest in rural areas – more than 53%: i.e. more than half of beneficiaries in rural areas are non-poor (Chart 5). The exclusion error is highest in Yerevan – 86%, i.e. 86% of the poor in Yerevan do not receive family benefits.

**Chart 5: Inclusion and exclusion errors**



*Source: EDRC and author's calculations*

If we assume that the beneficiaries of the FBS should be the extremely poor households (those who live below the food poverty line) the inclusion error for the country would equal 82.6%, whereas the exclusion error – 62%.

## **Summary**

Social assistance budget in Armenia mostly consists of direct financial transfer programs. The major beneficiaries of the social assistance system are the poor households. The largest share of the social assistance budget is paid to the poor households in form of family benefits.

Poverty deficit in Armenia is much larger than the budget of direct financial transfers aimed at alleviating poverty. This, in fact, is not abnormal, since it is not convenient to eliminate poverty only through financial transfers from public funds.

The FBS under the current targeting method (scoring formula) is progressive, i.e. the poor receive more funds than they would under a random distribution scheme. As a result, both poverty and extreme poverty is reduced. Poverty decreased by 2 percentage points in 2004, whereas extreme poverty by 1.8 percentage points: this was achieved at the cost of distributing 30% of the budget to non-poor households. Such a system cannot be considered efficient since a large share of extremely poor households is excluded from the FBS, despite that the budget exceeds the extreme poverty deficit more than two times. Meanwhile, the number of beneficiary-households in Armenia is two times larger than the number of extremely poor households.

Analyses of 2004 data showed that both inclusion and exclusion errors of the FBS are quite high. Inclusion error is highest in rural areas (53%), i.e. more than half of beneficiaries in rural areas are not poor. Exclusion error is highest in Yerevan – 86%, i.e. 86% of the poor in Yerevan do not receive family benefits.

## Reforms and quality in the higher education in Georgia

*Shalva Machavariani*<sup>7</sup>

*Educating highly qualified specialists who meet modern requirements is of high importance for development, and for solving technical, economical and social challenges. In the 21st century knowledge is considered as the most important value, as pointed out in Millennium Development Goals of Georgia, under the second group of objectives - ensuring coherence of Georgian educational system with educational systems of developed countries through improving quality and institutional set up.*

Traditionally, Georgian youth has a great endeavor to obtain higher education. More than 3% of the population and more than 40% of student's age population study at Georgian higher education institutions (Table 1). In comparison, the number of registered students in Azerbaijan in 2000 was 91 thousand (population – 8.1 million), in Armenia 44 thousand (population – 3.8 million) and in Georgia 140 thousands (population – 4.4 million). In other words, for every 10000 resident 114 students are recorded in Azerbaijan, 118 in Armenia, and 233 in Georgia. For 2006 this tendency is maintained with slight changes.<sup>8</sup>

**Table 1 Statistics on tertiary education in Georgia, 2000-2006**

| <i>Indicator</i>                                     | 2000   | 2001   | 2003   | 2005   | 2006   |
|--|--------|--------|--------|--------|--------|
| <b>Population (thousand people)</b>                  | 4371.5 | 4342.6 | 4315.2 | 4321.5 | 4401.3 |
| <b>Population of student's age (thousand people)</b> | 331.1  | 329.7  | 331.4  | 351.2  | 352.7  |
| <b>Number of students (thousand students)</b>        | 139.0  | 147.4  | 153.3  | 144.3  | 140.8  |
| <b>Number of PhD students (aspirants)</b>            | 1747   | 1707   | 1804   | 1112   | 496    |
| <b>Students to total population (%)</b>              | 3.2    | 3.4    | 3.7    | 3.4    | 3.2    |
| <b>Students to population of student's age (%)</b>   | 42     | 45     | 46     | 41     | 40     |

*Source: Department of Statistics, Ministry of Economic Development*

A considerable proportion of youth, almost 5% of all students prefer to obtain tertiary education abroad. In recent years, this number has grown remarkably. The reason might be that in the course of last twenty years the quality of Georgian higher education has deteriorated extremely, which has raised the need for reasonable qualitative reform. Since the Rose Revolution, a number of measures have been introduced to solve this problem.

First, the "Law of Georgia on Higher Education"<sup>9</sup> has been adopted, which defines and puts in force the organizational and juridical forms of higher education institutions; the rules of foundation, reorganization and liquidation; the structure of higher education institutions possessing the status of legal person of public law; the status of academic personal of higher education institutions; the levels of higher education.

In May 2005, Georgia joined the Bologna Process. It obliges Georgia to integrate into the Joint European Educational Area by 2010. From 2005, joint national exams have been performed in Georgia. Based on the results of these exams, adults are registered in relevant higher education institutions and the best ones receive state grants, which covers the education fees partially or completely. At the same time, the

<sup>7</sup> PhD

<sup>8</sup> Statistical Yearbook of South Caucasus, 2002

<sup>9</sup> [http://www.mes.gov.ge/files/255\\_436\\_600942\\_DATOS%20FILE.doc](http://www.mes.gov.ge/files/255_436_600942_DATOS%20FILE.doc)

accreditation of educational institutions that satisfy relevant requirements has been started. Until April 2006, after passing institutional accreditation process, only 32 of 64 higher educational institutions received accreditation and 4 institutions were given conditional accreditation. Half of the accredited institutions are private institutions. According to the law on higher education, accredited institutions besides their legal form also possess equal rights.

Based on foreign experiences, three important factors should be taken into consideration to improve the quality of education: the perfection of educational, innovation and research process.

### **Perfection of educational process**

For the perfection of educational process following activities are needed:

- Curricular reform: three cycle system - competence based learning, flexible learning parts, recognition, mobility
- Funding reform: diversification of university revenues, regulating tuition fees, ensuring grants and loans, accessing EU funding
- Governance reform: extending universities' autonomy, arranging strategic partnerships and implementing quality assurance.

The accomplishment of these requirements needs essential measures from both Georgian universities and the government – particularly the Ministry of Education and Science. At present, Georgian universities work actively on perfecting their educational policies and programs to tailor them to western standards. Universities participate in programs such as ERASMUS MUNDUS, TACIS TEMPUS, and UNESCO, among others. It is important to mention that this process would had been managed more effectively if these locally specialized funds would have worked more effectively.

### **Implementation of research**

In the last ten years the scientific potential of Georgia has changed greatly, as the number of scientific institutions fell by 17% since 2003 and the number of researchers dropped by 43%. The percentage of personnel with scientific degrees has grown significantly from 46.4% to 64.1%.

There were notable changes in scientific-technical works in recent years. (*Table 2*) In 2005, in comparison with the data of previous years, the following changes were noticeable: the volume of scientific-technical works (products) decreased by 14.5%; among them scientific-research works fell by 16.2%.

The volume of project-construction and technological works declined by 58.7%. Simultaneously some growth is experienced on certain types of works: the volume of fundamental researches increased by 52.8%, the production of experimental patterns, models by 91.5% and scientific-technical and innovation services by 76.2%.<sup>10</sup>

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<sup>10</sup> Source: Ministry of Education and Science of Georgia

**Table 2 Total expenditure of total scientific-technical projects (GEL thousand)<sup>11</sup>**

| <i>Indicator</i>   | 2003    | 2004    | 2005    |
|--|---------|---------|---------|
| <b>Volume of the projects carried out</b>                          | 18635,2 | 23990,6 | 20519,9 |
| <b>Of which scientific-technical projects (products) fulfilled</b> | 18292,4 | 23894,5 | 20426,4 |
| <b>Of which scientific-research projects</b>                       | 16944,8 | 23078,8 | 19347,8 |
| <b>Of which fundamental projects</b>                               | 4894,9  | 5411,9  | 11454,1 |
| <b>Project-construction and technological projects</b>             | 1565,5  | 721,8   | 298,2   |
| <b>Production of experimental patterns, models</b>                 | 35,5    | 10      | 118,2   |
| <b>Scientific-technical and innovation services</b>                | 89,4    | 180     | 755,5   |

*Source: Department of Statistics, Ministry of Economic Development of Georgia*

The volume of executed scientific works dropped by 14.5%. These tendencies might be explained by the following factors. The state has less interest in realizing scientific-technical works with budgetary financing as in the opinion of some officials such works should be financed by private sector (among them project-constructive and technological works). However, there are no data available on financial support from the private sector. Based on expert estimations we may conclude that private sector has less interest in financing scientific activities.

In 2005, financing of Research and Development (R&D) in Georgia equaled GEL 23.2 million (USD 13.7 million), 0.2% of nominal GDP.<sup>12</sup> For comparison, in 2004 the total volume of Estonia's R&D financing equaled to 0.9% of its GDP. The European Union decided to increase total investment of R&D to 3% of GDP. Investment of businesses in R&D in 25 countries of EU grows annually and this indicator averaged 1.22% in 2006.<sup>13</sup>

Imperfect institutional frameworks also hinder R&D in Georgia. The integration of universities with the research institutions of the system of the Academy of Science goes slowly. There is no strategy for the development of science and specialized funds.

## **Managing innovation process**

The efficiency of investment activities is directly defined by two main directions of the innovation process: production of valuable scientific product, which is one of the main purposes of a university, and effective innovation management, which directs innovation activities for commercial purposes. Each component of the innovation process is influenced by several factors.

Creation of valuable scientific product is affected by objective factors like university potential (qualitative unity of educational and scientific-research components); quality of educational and scientific programs and the level of their integration into international projects; the quality of available resources (intellectual, financial, technological, informational); regulation of internal infrastructure; development of external infrastructure; effectiveness of state regulations and factors of indirect influence.

<sup>11</sup> Exchange rate GEL/USD = 0.59

<sup>12</sup> Source: Ministry of Education and Science of Georgia

<sup>13</sup> <http://trendchart.cordis.europa.eu/reports/pdf>

The formation of modern infrastructure to promote the development R&D has already begun in Georgia. First of all, one should mention the establishment of National Scientific Fund. This fund is a legal person of public law, established in 2005 on the order of the President of Georgia. Its aim is to provide public grants for scientific purposes.<sup>14</sup> The first grant competition was held in 200; the council of the Fund decided to finance 113 scientific projects with a total GEL 11,13 million (USD 6.6 million).

As for the implementation of scientific-technical products, the Ministry of Economic Development is in charge. Its Department of Economic Policy is responsible (among its other activities) for promoting innovation.

Innovation is hindered by the following factors: there are no united state innovation programs, no funds for realizing innovation activities, no incubators, techno-policies and technological parks. Medium sized businesses lack policy attention, and the innovation product's commercialization also suffers from serious obstacles.

Georgian higher education institutions should provide the country's youth with all real conditions to obtain qualified knowledge, which is very important for all the countries solving special challenges of globalizing world. It is also crucial for individuals, for their self-settlement and it, as well as for the nation.

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<sup>14</sup> <http://www.gnsf.ge/geo/index.htm>

## Investment policy's influence on transport sector and economic safety in Azerbaijan

*Namig Taghiyev and Agil Asadov*

*One of the main objectives of the country with dynamic development, such as Azerbaijan, is to closely participate in globalization process and achieve corresponding standpoint by integration into global environment. The implemented investment policy plays significant role in achievement of noted objective. In addition to reforms in different areas, payments of financial aid create basis for social development and sustainability.*

The role and significance of investment into society have increased. Improvement of macroeconomic figures requires constant increase of net production in leading areas, particularly in strategic sectors. Thus, increase of investments in republic and its state coordination, has achieved notable scientific and practical significance. Proper coordination of investments and direction of resources into sectors with higher magnitude would create possibility for Azerbaijan to reach more influential position. Thus, the rational state investment policy should refer to rational distribution of investments, attract and stimulate foreign investments into major sectors, improve the coordination and proper spending of resources.

Recently, transport, is one of the sectors that has high investment rates from local and foreign sources. This sector plays important role in the formation of relations between states, in the creation of wider influence in international prospective, or simply in the integration of Azerbaijan into the world economy. Currently several projects, exploitation of Baku-Tbilisi-Ceyhan oil pipeline, achievement of agreement on Baku-Tbilisi-Kars project, restoration of ancient Silk Way, improvement of internal infrastructural areas to international standards, construction of new regional airports, annual increase of internal transit shipping, etc, represent special attention and care from the government.

As a result of successful investment policy, Azerbaijan became a gate between East and West, Europe and Asia. It is clear from statistics, that economic success in recent years has generated conditions for the development of transport sector. Realization of Baku-Tbilisi-Ceyhan (BTC) oil-pipeline, Baku-Tbilisi-Erzurum gas-pipeline and other significant projects, not only pushed dynamic development of transport sector, but also had country-wide growth and employment effects.

As a result of the implemented investment policy, investments in fixed capital were AZN<sup>15</sup> 44 million in 2000, AZN 89 million in 2002, AZN 338 million in 2003 and AZN 516 million in 2005. Apparently, rapid annual increase of investments in transport sector have created basis for development of state transport system, globalization and integration of the national economy. Naturally, this has increased the volume of shipping and improved transport relations.

**Table 3 Growth rates of cargo shipping**

| <i>Indicator</i>                     | 2006  | Growth rate (%) to 2005 |
|--------------------------------------|-------|-------------------------|
| <b>Cargo shipping (tons million)</b> | 145.1 | 13.0                    |
| <b>Cargo turnover (tkm billion)</b>  | 43.1  | 62.6                    |

*Source: State Statistical Committee of the Republic of Azerbaijan*

<sup>15</sup> Azerbaijani manat, official exchange rate AZN/USD = 0.85

The volume of shipping including activity of BTC in 2006 has reached tons 145 million, whereas cargo turnover was tons 43.1 billion, which represents in comparison to year of 2005 an increase by 13.0% and 62.6%, respectively. This means a 6.2% advantage for Azerbaijan in comparison with average indicator on cargo shipping among CIS countries, and 50% vantage in cargo turnover.

According to overall results in 2006, in comparison with previous year cargo shipping increased by 11.9% on railroad transport, by 7% on road transport, by 70.6% via pipeline and decreased by 1.3% in case of sea transport. Main reasons behind these developments were the restoration activities in transport sector, increase of quality of provided services, improvement of infrastructure area, etc. The major factor of increase in pipeline conveyance is the exploitation of BTC; however, this pipeline will reach its full potential next year giving further impulse for the growth of shipping data.

In 2006 Baku International Sea Port has executed loading-unloading activities estimated at tons 6.0 million which is by 5.6% higher than in 2005. During noted period, indicators of implemented activities in Europe-Caucasus-Asia corridor can be distributed in the following way

**Table 4 Growth rate of cargo turnover**

| <i>Indicator</i>                            | 2006  | Growth rate (%) to 2005 |
|---|-------|-------------------------|
| <b>Cargo shipping (tons million)</b>        | 43.7  | 5.3                     |
| <b>Revenues from shipping (AZN million)</b> | 201.5 | 3.6                     |
| <i>railway</i>                              | 126.1 | -                       |
| <i>sea transportation</i>                   | 38.5  | -                       |
| <i>car transportation</i>                   | 36.9  | -                       |

*Source: State Statistical Committee of the Republic of Azerbaijan*

In 2006 Azerbaijan shipped tons 43.7 million through the Europe-Caucasus-Asia transport passage, which is higher than that of 2005 by 5.3%. Revenue of AZN 201.5 million was gained via the passage which was higher than that of the previous year by 3.6%. 62.6% of revenue falls on share of railways, 19.1% on sea and 18.3% is connected with road transport. All aspects approve annual increase in transit shipping and integration of Azerbaijan in world economy. This will also provide conditions for turning resources gained from transit into major sources of the state budget.

Currently it can be observed that implemented reforms in Azerbaijan correlate with dynamic development rates. Thus, state economic structure which was formulated in relation to requirements of new economic system, adoption of available resource potential into turnover, and liquidation of social problems, integration of Republic of Azerbaijan into global market has achieved significant result.

At the same time, it is undoubted that provision of economic safety has turned into a significant problem, particularly for the states in economic transition in the light of parallel processes of globalization and rapid polarization. Increase of globalization, synchronization of integration processes, strengthening of relations and interdependence among countries, and increase of number of possibilities that positively influence state economy bring to the forefront the provision of economic safety. Economic safety, as a main duty for each country establish conditions for social stability as part of national safety, provision of development, increase of defense opportunities etc. Provision of economic safety is strictly related to formation of rational economic structure, level of rational use of potential of resources, solution of existing social and economic problems, etc.

It can be concluded that economic safety provides fulfillment of requirements of society, provision of rational economic activity and neutralization of factors with positive influence on economic development with

representation of realization of economical interests. More precisely, economic safety is a sum of national economic independence, its stability, conditions and factors that provide sustained development.

### **Economic interests**

There are economic interests related to economic safety. At the same time, economic safety neutralizes internal and foreign. Economic safety requires provision of rational functioning of economy. If the economy does not develop or ensure possibilities in correspondence with state resources, growth by necessary rates, possibilities for opposition of its internal and foreign threats becomes limited. From another side, soundness of the economy characterizes stability of relations between markets and possibilities for internal and foreign pressure.

Transport turns noted processes into chain, which generates conditions for overproduction serving as significant factor for economic development and safety. Thus, it is not possible to imagine developed transport system without rational functioning of economic safety. From this point of view, development of transport system and its infrastructural areas in Azerbaijan represents significant part of state interests in accordance with serving the economic safety. At the same time, after extractive, reprocessing and agricultural sectors, transport sector is considered as the fourth largest one. Continuity of production processes is being provided by provision of transport systems with necessary raw materials, as well as by provision of ready production to consumers, whereas noted generates conditions for overall economic development and fulfillment of population's requirements.

From this point of view, one of the important aspects for Azerbaijan operated for long period of time by strict and long-term based policy creating is opening corridors from Caspian Sea into Europe and global market. Development of transport sector, additionally, is reality flowing from geographical and strategic point of view. Thus, the geographical position of the state which gives an opportunity to serve as a bridge between Europe and Asia, Azerbaijan should rationally utilize this fact. It is natural that the most important task is the development of internal transport sector, transit services and coefficient infrastructures.

Statistical researches prove that currently transport sector is rapidly developing. Thus, during the first 9 months of 2007, taking into account the BTC pipeline in the name of Heydar Aliyev cargo shipping have increased by 19.2%, whereas cargo turnover has increased by 150%. During that 9 months cargo shipping reached tons 120.6 million of which 48.3% falls on the share of road transport, 28.0% on the share of pipeline (by these means 16.8% BTC pipeline), 17.4% relates to railway and 6.3% to seaways. At the time of implementation of research, share of private sector in cargo shipping represented 66.9%.

During the first 9 months in 2007 845.9 million passengers were carried, which is more than in 2006, by 7.9%. In the noted period, the role of private sector in passenger carrying was dominant as in cargo shipping, and equaled to 84.2%. Share of road transportation in passenger carrying represented 84.3%, whereas metro transportation was responsible for 14.9% of overall passenger carrying.

In the period of January-September 2007 Baku International Trade Port has implemented activities of tons 4.1 million or in comparison with the corresponding 9 months of the previous year, the growth reached 12.1%. During the first 9 months of current year, Europe-Caucasus-Asia transport corridor has carried tons 31.1 million tons of cargo and 118.5 million passengers in Azerbaijan, which is equal to 28.9% of net carrying through the country. 57.7% of shipped cargo falls on the share of railway, 12.6% of seaways and 29.7% is represented by road transport. At the investigated period, an income of AZN 154 million was achieved, which was higher than that of 2006 by 5.8%. 62.6% of the achieved revenue falls on the share of railways, 18.2% on seaways, 19.2% is related to automobile transport.

Provision of continuity of production processes for rapid development of state transport system fulfills society's needs from ecological and other perspective and therefore creates conditions for proportional development of national economy.

Thus, it can be concluded that economic safety as a new term represents protection of national and economic interests of the state that is rapidly developing in global conditions, as well as rational realization of economic potential and provision of sustained development rate of the country. Improvement of economy's structure in accordance with state economic interests, generation of economic mechanism that provides sustained development, rational integration into the global market and solution of main social and economic problems are major factors for provision of economic safety. Rational solution for all noted aspects requires distribution of transport services appropriate for fulfillment of modern needs.

## **Situation and challenges of maternal and infant health protection in Tajikistan**

*Khodjamakhmad Umarov*

*In 2000, the government of Tajikistan signed the Declaration of the Millennium. Since then, several measures on the Millennium Development Goals, among them on the reduction of infant- and maternal mortality rates have been implemented. However there are still many specific challenges that wait for interaction.*

### **Facts and figures**

Tajikistan's demographic and epidemiologic structure corresponds to its complicated economic situation. The high level of poverty is accompanied with high infant mortality rates caused by chronic malnutrition and infections, beside high traditional birth rate. Reforms of the last decade have led to decreased volume and deteriorating quality of medical services and to denial of people's rights for free access to healthcare. Financial opportunities of the state in maintenance of health of women and children diminished. Moreover, this was aggravated with permanent decline in standard of living, problems concerning employment, labor migration, disruption of the society by age and gender.

Consequently, the number of deliveries at home place increased side by side with rising premature births and pregnant diseases. The bad conditions of new-born babies cause anxiety, as a main result of defective feed of mothers during pregnancy. Thus, women and children are considered to be the most vulnerable group of the population, especially in a transition economy.

In Tajikistan, there is a diversity of geographic, social and economic reasons causing problems for maternal and infant protection, including their health. Some statistics should be overviewed from this point of view.

As for the sex-age structure of the population, 49.8% of the population are women (in cities 50.1%, in villages 49.7%), out of them 50.2% of genital age; 52.4% are children and teenagers (in cities 48.3%, in villages 53.9 %), and 77.7% out of them in the age of 0-14 years (in cities 77.2%, in villages 77.8%). 73.4% of all population (and the same ratio of female) lives in rural area.

22% of rural population lives in settlements with number of inhabitants 500-1000, while 34.8% of the cases in villages up to 500 persons. According to latest population census in 2000, in 54.2% of households live five-nine persons (in villages 60.7%, in cities 41.7%), in 10.8% ten or more persons (in villages 14.1%, in cities 4.5%), while the average number 5.8 persons (in villages 6.5, in cities 4.5).

The qualification of the population is also interesting. Per 1000 person there are less women with higher education than men 2.3 times (in the countryside 4.1), with incomplete higher education 2.5 times (in villages 3.6), with specialized secondary education 1.4 times (in villages 2.0).

Similar trends can be traced on sources of means of subsistence (employ and without it, social payments, a dependence, income from property etc). Among women only 26.6% have the income from property and other means of subsistence; 53.3% are dependent on separate persons and 54.4% live on social payments.

Thus, the structure of population, which plays important role in planning governmental actions, defines the needs for women and children healthcare and social services. Specific needs of women and children can be satisfied by budgetary financial resources, i.e. under condition of preservation of free-of-charge system of health services of the poor. In countries like Tajikistan, as well as in the majority of developing and transitive societies, such principle of health services for the poor does not have alternatives.

The future of human potential of a nation that is fraught with danger of health and social challenges can be undermined, resulting unsustainable economic performance and vulnerable national security. International experience shows that the increase of the proportion of paid medicine should happen gradually in order to alleviate poverty and increase total revenue of the population.

The birth of healthy children in many respects depends on the level of social and economic position, parents' education and state of health, and also on all-round systemic policy support. From this point of view there are certain problems in Tajikistan. The serious state of health of children and mothers are especially problematic. According to international data, Tajikistan was among the worst countries concerning low-weighted babies at birth. (15% of the babies, while in Uzbekistan and Tajikistan were under the standard 7%)

### **Need for interaction**

It follows that higher appropriations and transparency of target expenses for maternity and infant health protection are even more necessary than before. In the course of transition to market economy, despite the economic difficulties, measures have to be taken on the development of corresponding legislative base, providing: equality of man and the woman in the family; the right of the woman to solve questions of motherhood, contraception, including surgical sterilization; measures on protection of labor of pregnant and feeding mothers by lengthening their terms of leave and welfare payment on state insurance; granting of holiday on care of the child till one and a half years etc.

However, the insufficiency of public funds influences negatively the impact of measures. One example is the pecuniary compensation for the children from poor families. Since 2002, it is paid to the families having children of age 6-15 and visiting school. 20% of children from the poorest families receive it. Payment makes TJS<sup>16</sup> 4 (USD 1.2) per month. It is natural, that such negligible payments do not have any positive effect on a standard of living of children and the state of their health. The same may be told about other means of social benefits.

Tajikistan, as one of the poorest country is not able to provide healthcare for mothers and children without international help. The country tests special needs in maintenance of the population with foodstuffs to reduce the phenomena of malnutrition, which have negative consequences for health of mother and the child for a minimum. By means of international organizations, school feeding for schoolboys of initial classes of mountain areas is organized. Large families receive flour, oil, bean and other food stuffs. However, from the point of view of achievement of a high-grade feed, this help is absolutely insufficient. Till now, the food allowance of the population of village, especially in mountain areas is far from necessary.

Obligations from Beijing Declaration and the program of actions of the International conference on the population and development (Cairo, 1994.) are recognized. Accepted national targets and branch (public health services) programs on the priority problems of health of mother and child are supported by the government and international community.

In the Strategy of Poverty Alleviation in Tajikistan (2002) priorities of public healthcare services provision, reflecting interests of mothers and children are precisely determined. In particular, they include: improvement of access and quality of services of public health services, the primary medico sanitary help, the information system reflecting corresponding needs of poor strata of society, maintenance of availability and search of alternatives existing in sector of public health services to informal payments.

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<sup>16</sup> Tajikistan Somoni, official exchange rate TJS/USD = 3.45

At the same time, many questions connected with reproductive health remain unsolved in Tajikistan, as until now there is no law passed about reproductive health, where the rights of men and women concerning reproduction of children and the of preservation of health of mothers and babies could find precise reflection.

In connection with this, a high level decision made recently at transition to paid service. However, the realization of this has been suspended, as it was found from many aspects inadequate.

Children and women from poor families are not in condition to use medical institutions. Such situation will inevitably lead to repeated increase in infant and parent mortality rate. In city Oran (Algeria) since the 1970th the payment for using state hospitals has been cancelled, indicators of maternal mortality rate declined to 42 %, and the quantity of deliveries in house conditions has sharply decreased. Meanwhile among members of one of religious groups in the USA refusing from medical services, the indicator of maternal mortality rate has made 870 to 10,000 live born, i.e. it was the same, as similar indicators in the poorest countries (thus members of the specified group had the incomes comparable to incomes of their neighbors).<sup>17</sup> These examples prove serious irresponsibility concerning accepted decisions on transition to paid public health services in Tajikistan.

Despite the certain actions of the government in the sphere of public healthcare provision which are carried out in conditions of limited resources of the country by support of donors, results were not reflected improvement of health of mother and the child. The situation on access to qualitative primary medico sanitary and urgent qualified obstetric care still remains complex because of a set of problems caused not only by limited resources, but also by the lack of proper management of services, slow introduction of modern approaches to the decision of problems of maternal and infant health, leading directly to high level of maternal and infant mortality.

## Results and solutions

By official data, in the course of last ten years the tendency of decline in indicators of maternal (96.3 in 1995 and 45.0 in 2004 to 1000 live-births) and infantile mortality rate (26.4 in 1995 and 27.9 in 2004 to 1000 live-births) is traced. However, by results of independent researches, including by technical support of UNICEF by method of "verbal autopsy", these indicators have appeared more than 3 and 6 times higher than those abovementioned. According to UNDP, infant mortality rate in 2004 has made 91.0 cases to 1000 live-births. On independent researches (Hill, etc.) maternal mortality rate in 2001 has made 123 cases to 100 thousand live-births.

As a whole, according to the international estimations, in 1990-2004 the registered mid-annual level of maternal mortality rate in Tajikistan has made up 45. The same source specifies that in Uzbekistan this indicator is equal 34, in Kyrgyzstan 44, in Belarus 18, in Iran 37, in China 51. In such safe countries as Switzerland, this level reaches 5 cases, in the United Arab Emirates 3. All these data, which are corrected data by UNICEF and CART, show that in Tajikistan, in comparison with its neighbors and even some African countries, the situation has deteriorated extremely. The main reasons of high maternal mortality rate are bleedings, a hypertension of pregnant women, complications of abortion and extra genital diseases, and also septic complications.

In many respects it is caused by weak quality and non-availability of prenatal, natal and postnatal care, help in delivery, and by transport problems. The same international sources stress the high level of infant mortality rate in until the age of 5 years. According to these sources, in Tajikistan infant mortality rate up to 5 years

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17 The population of the world. 2000. UNFPA. – New York, 2000. - P. 5.

has made 93 to 1000 live-births in 2004. The same indicator in Uzbekistan reached 69, in Kyrgyzstan 68, in Iran 38, in China 31, in Lithuania 8, in Switzerland 5 cases<sup>1</sup>. In structure of the reasons and infant mortality rate from group in the age of till five years, still leading are sharp respiratory infections, diarrhea illnesses, unsatisfactory prenatal care.

The unsatisfactory sanitary-and-epidemiologic situation acts as one of the main reason. Last in many respects is caused by a low level of access of the population to pure water. According to inspections, children in the age of till 5 years on which share drops out less than 20 liters of water a day, in 1.6 times suffer more often from a diarrhea, than children using necessary quantity of water. The researches executed in the end 2003, testify that 33% of the population have access to the chlorinated water, and 29% use spring and well water. The others use irrigation ditch and river water. According to researches in 2005, 40% of the population of the country had access to water of uncertain quality. According to the bacteriological analysis in 2002, 40 % of the water consumed in different regions of the country, is non drinkable.

The international practice saves sufficient experiences concerning infant health. It is the immunization based on principles of the expanded Program of Immunization (RPI), the complex conducting children's illnesses including: conducting cases of sharp respiratory infections, diarrhea, malaria, measles and hypotrophy, immunization, consultation on feeding and chest feeding, enrichment by nutritious trace elements and iron, anti helminthiasis treatment.

In this plan for Tajikistan represented very important all-round use of achievements of the scientific and technical progress promoting decrease of expenses for treatment. So, the method of peroral rehydration therapy which is estimated by many experts as the major opening of XX century in the field of medicine is called to replace internal introduction of a sterile liquid by means of a dropper which differs in high cost. Other achievement of a pharmaceutical science became adaptation to conditions of developing countries of vaccines from measles, mumps, whooping cough, diphtheria, tetanus and tuberculosis.

For the decision of a problem of strengthening of health of mother and the child it is necessary to pay greater attention to planning of family, correct use of contraceptives, pure and safe delivery by means of prepared obstetric personnel, especially for cases with a high degree of risk and at complications. Here population awareness and its education should play also the role.

Planning of family is directed not only on decrease in birth rate, but also on creation of favorable conditions for the childhood and motherhood. Last 15 years in Tajikistan essential decrease in factor of birth rate on 1000 persons takes place, decreased with 39.1 in 1991 up to 26.4 in 2005. It is not result of substantial increase of occupation levels, women education, expansions of their mental outlook, public activity, and etc. Decrease of fertility in Tajikistan has occurred as a result of sharp deterioration of conditions of a life, incomes and consumption of the population. In other countries the same tendency is caused absolutely by other reasons. In the beginning we shall consider dynamics of women fertility on the separate countries.

Decrease in fruitfulness of women in Tajikistan, as well as in other countries of the Central Asia, and also Mongolia was the result of deterioration of conditions of a life of family. Such decrease has been caused by rather high level of literacy of women. The competent woman realizes conditions of decrease in incomes of family that the increase in births even more will worsen and without that lives worsening a condition. In Iran, India, Pakistan and China decrease in fruitfulness of women grows out increase of a level of female employment, their erudition, public activity, and also incomes of families.

Therefore there are all the bases to consider, that the further decrease in a level of poverty in Tajikistan can lead to increase level of birth rate.

For the known reasons, the Tajik society is interested in the further decrease in a level of birth rate of the population, and consequently, and women fertility. Therefore greater efforts are required not to admit

transformation of this tendency into the contrast. In this plan it is necessary to develop educational work among women, especially rural, not only by forces of the medical personnel, but also NGO and other public institutes. In sector of public health services of Tajikistan spent actions basically are aimed at the specified approaches. However these actions demand better execution and further development.

## **Conclusions**

According to Millennium Development Goals, declared by UN in sector of public health services, it is supposed to lower to 2015 a level of infant mortality rate in comparison with 1990 on 2/3 in age group 0-5 years and maternal mortality rate to 3/4.

It is complex to achieve it, as these problems are interfaced to many-sided problems which decision requires support of the international community, and in a context of carried out reform perfection and required development of public health services, the qualitative and accessible medico sanitary help of mother and the child, strengthening of the intersectional directional operation.