

## HUMAN CAPITAL DEVELOPMENT IN AZERBAIJAN 2010

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In the 21st Century, our most sophisticated weapon system is the human brain, and our most powerful advantage is our people.

**US Navy Capital Strategy, 2007**

Human Capital Development strategy is an irreplaceable element of any meaningful developmental strategy. Building a sustainable economy is impossible without educated and skillful human resources.

Azerbaijan has a historic chance to launch a massive Human Capital Development Strategy, due to substantial oil revenues. The Government has substantial financial resources and education is the best investment target.

At the moment Government invests heavily in physical infrastructure for education. We believe it is time embark on the systematic improvement and diligent reform of the soft educational infrastructure, i.e. qualification of teachers, IT knowledge penetration, textbooks and curriculum, linguistic expertise and so on. What is also missing is a mechanism of assessment of Human Capital situation.

The first step towards new HCD strategy would be introduction of a National HC Assessment mechanism. Its main instruments would be: Yearly National HC Survey, The system of obligatory Streaming Examinations for students (3<sup>rd</sup> year of school, secondary school graduation 11<sup>th</sup> year, university graduation), Annual Selective Employers' Survey and other *ad hoc* instruments.

Establishment of a devoted National Agency on HC is advisable. The State Commission on Students Admission at the moment seems to be the right basis for such an Agency.

Changes to legislation aimed at promotion of HCD, mainly through incentivizing private sector to invest more in education are also recommended.

The above steps underpinned by a public discussion will help in formulating a long term Human Capital Development Strategy for Azerbaijan within next 2 to 3 years.

## **Introduction**

It is 2010 and Azerbaijan has recently started to receive substantial revenues from oil & gas projects. These revenues are the backbone of the local economy. According to various estimations from 40% to 75% of state budget income is derived from oil & gas (the official statistics is complicated and difficult to understand, more transparent information seems to come from International Financial Institutions). The rapid inflow of revenues allowed to achieved amazing GDP growth figures - circa 20% per year between 2003 and 2008.

**HOWEVER**, with the current forecasts in mind the oil revenues will stabilize in the next two years and will gradually go down in the next 15 years until reaching insubstantial volume. The process of stabilization of revenue level has already started. GDP growth in 2009-2010 is in much more modest 5% annually area. This decrease is not solely due to the global economic crisis and volatile oil price, but is also evidently a result of the so called "Dutch disease", an economic syndrome of excessive dependance on a single revenue source.

If Azerbaijan wants to continue to grow economically in the mid to long term an alternative growth strategy should be designed and introduced very soon, while the country still receives oil revenues.

**IT WOULD BE WRONG** to claim that Human Capital Development is the answer to all economic growth questions. But it is a valid claim that without a sound Human Capital Development strategy an economy is very unlikely (if not impossible) to achieve long term sustainability.

Adam Smith saw two genuine roles for the government (beyond defence): to support institutions "facilitating the commerce of the society" and institutions providing education. He thought that the state should provide access to general education for the broad population – and that attendance should possibly be mandatory. This was also Smith's answer to the basic problem in economics: the social question. Equal educational opportunity is a more sustainable vehicle towards social peace than transfer payments from rich to poor. (Deutsche Bank study on HC 2005)

In this paper we will try to make a brief study of Human Capital situation as it is at the moment and give general outline of the possible Human Capital Strategy for Azerbaijan.

## Background

**STATISTICAL ISSUE.** During preparation of this paper we faced substantial difficulties with obtaining meaningful statistical data related to Human Capital. The quantitative data does not seem to be the biggest problem (though it exists too). However, the data reflecting qualitative indicators is largely missing. Below are some examples:

Quantitative statistics	Important questions remaining
97% of Azerbaijani population is literate	We heard in the official news that the state school graduation exam results in 2008 were substantially worse than the year before, however, we could not find any meaningful report or review on this
University graduates are up by 15% p.a. in the last 5 years	What is the percentage of fresh graduates getting employed?  How many get a job in accordance with the university course studied?
Overall number of PHDs is up by 10% in 5 years  Proportion of women PHDs is up 10%	How many international patents did Azerbaijani inventors register in the last 5 years?  How many articles in A grade R&D magazines were published in the last 5 years by Azerbaijani researchers?
800,000 new job were created during last 5 years	What is the proportion of long term skilled jobs among the mentioned 800,000?

Collection and verification of such data is well beyond the scope of this paper and we therefore will try to use to the extent possible the indirect data and statistics, cross references between various sources and other information collection techniques.

Number of students in Azerbaijan per 10,000 is 160 (460 in USA, 500 in Kazakhstan etc.). Number of educational workers per 10,000 is 7 (also below regional average).

In view of this informational backlog we have no choice but to build the paper on a speculative assumption that the situation in Azerbaijani Human Capital in general has not improved since 1990 (disintegration of USSR). We will try, however, to find the potential growth points as well as to analyze any HCD success stories we came across in Azerbaijan in order to learn from the positive experience and balance the paper.

We justify the above approach with the argument that the probable damage from being a bit over skeptical is much smaller than from the risk of falling into the trap of wishful thinking when it comes to such vital and complex issue as HCD strategy for a nation.

**DEFINITION.** Human capital is productive wealth embodied in labour, skills and knowledge" (United Nations Glossary). This is the definition we will try to stick to for the purposes of these paper, as a widely accepted and convenient one. However, from time to time we will need to refer to much less quantifiable categories such as, for example, talent and entrepreneurial spirit.

Human Capital concept in the international research has gradually developed over the last decades from an adjusting and less complex category of Human Resources. It now goes hand in hand with another trendy concept of "Talent management". As seen from the chart (right) HC is the classic Human Resources with emphasize on how a society or institute can benefit from better and more efficient utilization of human resources.

But what aspect of human activities do we keep in mind when discussing HC? Apparently first of all we talk about the aspect of human activity associated with generation, distribution and safeguarding of Knowledge. It would be almost impossible to separate these two categories: HC and Knowledge management.

**HC DEVELOPMENT FACTORS.** “Adaptive organizations choose to invest in people, to consider people as human capital and worth investments of various kinds, rather than as costs to be minimized. This choice...recognizes the reality that the demand for qualified knowledge and service workers exceeds the supply in many labor markets and will continue to do so for some time to come” (Burud & Tumolo, 2004).

The above definition is rather a definition of positive attitude to HC, rather than of HC itself, but reiterates a very important point: people are the main resource of any society. This definition is even more useful bearing in mind the purpose of our paper.

Family, school, university, job, civic activities, media etc. – all these are factors influencing and shaping up the HC. This is not to mention less quantifiable categories such as national mentality or inventiveness or entrepreneurial spirit of people.

The child of educated parents, who studied in a school with well paid and properly coached teachers, who then has an opportunity to get admitted to the university of his choice based on test or exam scores (ie merit based selection) and after completion of the course is able to apply for a job in accordance with what he studied is by no means guaranteed but is more likely to be a good addition to the cumulative HC of the nation.

Are all the above factors necessary for a successful HC case? Probably, yes.

So, probably, HC development is a project that should be looked at through «generation change» prospective. Say, a nation embarks on a massive HC development project. In order to achieve the “breaking point” it would take a child of 3-4 years now to go through schooling, university or college, start working and getting on-job experience, probably some vocational training, i.e no less than 15 years. Other factors that influence HCD are: Life expectancy, Religion, Language, Media and many more.

Shortly, HCD is dependent on many factors, some of them practically unquantifiable. To build a good HCD strategy is by and large similar task to building a healthy and sustainable society.

## **International Experience:**

There is a wealth of international experience of HCD in many countries. If we just look at the "economic miracles" of the last 3 decades, we will see a very clear pattern of HCD, as the important element of any successful development strategy. Singapore or Finland, Korea, Taiwan, India, China etc. - Human Capital is in the centre of the development strategy. Below is a very short overview of few exemplar cases:

**SINGAPORE** is probably the brightest example of a successful HCD strategy in a sense that a substantial result had been achieved in considerably short period of time. The launch of aggressive (in a good sense) HCD programs in Singapore took place in late 70-s early 80-s of 20<sup>th</sup> Century. 30 years on and Singapore is now No 1 globally for the ease of doing business, and the top FDI source outside classic Developed Markets. What are the cornerstones of such success? The researchers say it is largely due to the so called Tripartite approach (Osman-Gani, 2007), i.e. close cooperation between the Government, Trade Unions and employers in designing and implementation of extremely ambitious HCD strategy, as well as continuous investments in HCD. Business Environment Risk Intelligence (BERI), ranked Singapore's workers as the best in the world for relative productivity (Standards, Productivity and Innovation Board, 2003).

**FINLAND.** "You can not plan innovation. You only can create favorable conditions for it." These words of one of former Finnish Presidents Martti Ahttisaari seem to reflect on the essence of the Finnish attitude towards HCD. Little natural resources, small population, cold climate and not a particularly favorable geography all made for a very difficult starting point. Finland made a major emphasis on ICT and innovation and succeeded. It is a home for a number of globally acknowledged businesses such as Nokia, Wartsila etc. Finland has immensely capitalized on the inventiveness and innovativeness of its people. They clearly realized that for a nation which will find a way to un-tap the enthusiasm of its people the sky is the limit, no matter how small it is and where it is located.

*Interestingly, it seems from the examples above that a successful HCD strategy goes hand in hand with successful Transparency and Anti-corruption efforts (both Finland and Singapore rank very high in the transparency ratings). Why there is a correlation, may seem obvious, but we do not have any statistical data to support this assumption. We just note the link between the two.*

**KOREA.** In the 60-s South Korea was one of the poorest nations in South East Asia. Almost no natural resources, but substantial and relatively cheap labour force became the centre of South Korea's economic growth policy. Labour efficiency and IT, industrial export compose the core of South Korea's efforts to sustain rapid growth. Compulsory education ends at the age of 14, but 95% of the young Koreans complete high school – the highest ratio among the OECD economies. Tests regularly show the high quality of the education system: Koreans trail only the Finns and the Japanese in PISA. Higher/tertiary education witnessed the most impressive success during the last two decades. The number of higher education institutions shot up from 290 in 1975 to 1,400 in 2003. The number of students surged from 240,000 to 3.6 million. Currently, more than 40% of Koreans aged 25 to 34 have completed tertiary/higher education, compared with an OECD average of 28%. Being “hardworking” is the national ideology of south koreans.

As described in detail above, Korea has emphasised education for decades and acted accordingly. The average years of education rose by more than 20% between 1985 and 2000, moving Korea to 6th place in the ranking of human capital levels. Another significant increase by 15% should let Korea catch up with Japan and Germany over the coming years. The high growth rates and levels of tertiary attainment rates as well as education spending of more than 8% of GDP point to such a rapid rise. The quality of education is convincing, too: Korea took 3rd place in PISA 2003.

**INDIA.** In early 80-s the Indian government grew aware of the economic development challenges. We refer to an interview with a senior Indian Civil Servant (Deputy Minister of Foreign Affairs). The Government decided to concentrate on the educational and employment opportunities for the growing middle class of India (an amazing figure of 400 million people according to the estimates of the government). Together with substantial investments in telecom it made India a major outsourcing partner for Western companies. India had practically went online. Between 2005 and 2020 we expect a 40% rise in the average years of education in India, to just above 7 years. Although this will still be the lowest level among our 33 countries (which helps explain why per-capita income in 2020 will still be very low), it is the strongest percentage gain (which helps explain why per-capita GDP is expected to rise so quickly going forward).

**DUBAI** (we refer to Dubai as the case though it is not a sovereign, but part of UAE, due to the fact that Dubai way is interesting for us, and, is clearly distinctive of other emirates). ... is country with

small population, small territory, but a strategic location. So, they stimulated the international business to get established there through tax, legal and infrastructural incentives. Thus, the international business contributed to its development. The lesson that can be learnt from Dubai experience is that, technically, if you do not have sufficient HC you can attract it from elsewhere. This is to some extent is valid for Singapore too – emigrants' society to large extent. Dubai is a bright example of the above, but definitely not the only one.

There are as many ways in HCD as there are countries. And it is pointless to try to replicate the other country's experience in full. But we believe there is enough international experience accumulated so far to learn from.

The history of the second half of the 20th century has a good and well established record of nations who made a choice of Human Capital Development as the core of their sustainability strategy. Empirical link between HCD and wealth generation is well known. It is widely accepted that in an open market economy 1 additional year of education on average adds 10% to the per capita income. It seems there is a very clear link between the role the Government allocates to the HCD and the overall economic success of nations in the modern history. And on the contrary, it is very difficult to point out a sustainable economy and a vibrant society that underrated the importance of HCD while designing developmental strategy.

### **Inventory of HCD Initiatives in Azerbaijan**

The Government sent a number of signals in the early 2000s, indicating that it understands the "Sustainability Problem" related to excessive dependance on oil & gas revenues and announced the course to diversification and development of non-oil economy, as well as investments into the so called "human gold" (as opposed to "black gold" - oil). Some of the promises materialized into practical steps while some remained promises. Below are brief description of a number of projects (we tried to select those with tangible results, and not proclamatory type):

**STATE PROGRAMME ON EDUCATION ABROAD.** In 2007 the State Sponsored Scholarship Programme was adopted by the Government to support Azerbaijani nationals with ambitions to study in the best international schools. The scholarship is for degree education only, and provides 100% financing of both tuition and additional costs. The graduates are expected to return to Azerbaijan on completion of study and work in the place identified by the Government for certain

period of time. The Programme stipulates 5000 scholarship in total and is underway at the moment. A few hundred were sent to study already. It is not clearly yet however, how the reintegration of graduates will work. We noticed that a number of graduates were clearly overqualified for the jobs offered.

There is also an apparent difficulty with filling the quota of students who qualify for the programme. Foreign language expertise and general knowledge in many instances is not sufficient to enroll into to the qualified universities.

**AZERBAIJANI DIPLOMATIC ACADEMY.** Though there are many educational institutions in Azerbaijan, both state owned and private, it seems ADA (est. 2007) stands out a bit, and represents a certain trend. The Academy is subordinated to the Ministry of Foreign Affairs and the management is trying hard to introduce Western education principles as well as turn it into a regional school for diplomats from Central Asia.

**PEOPLE'S COMPUTER.** Private IT companies supported programme. Stipulates subsidised sale of computers to school teachers and students. Launched in 2009. 8,000 computers sold so far.

**“BLACK GOLD INTO HUMAN GOLD PROJECT”.** UNDP backed project. Mainly monitoring and advisory tasks. Launched in 2005, finished in 2007.

**BETTER SCHOOLS PROGRAMME.** Heydar Aliyev Foundation sponsored project. Stipulated reconstruction of the majority of secondary schools, in particular, in the regions. Active phase was in 2005-2008. The Foundation is also active in creating better conditions for orphans.

The general feeling, however, is that the Government currently is very much concentrated on the projects in public infrastructure (transport, urban development) upgrade. This is plausible, but makes the question of soft infrastructure (and in particular education), even more dire and important. Current level of budget expenses on education is 2.6% (compare with 8% in Korea).

As part of the efforts to diversify the economy, the Government launched a number of initiatives, the most notorious of them being the Regional Development Program 2003. Phased for 5 years, the Program had to assist the non-oil, out-of-Baku development. Education was part of the program.

Renovation and re-equipment of schools and universities, new jobs, social infrastructure of all types etc. were envisaged.

Under the auspices of this program a joint UNDP/Government project was launched called “Black Gold into Human Gold”. Though not 100% successful the project managed to act upon a number of initiatives, the most notorious of them being “the Program of Educating Azerbaijani Students abroad 2008-2013” (above).

One of the latest legal instruments of the Government is the State Programme on Reforms in Educational System (2008). The document stipulates gradual transition to the Bologna standards (i.e. European educational standards), investment in education, institutional reforms etc.

In other words, there is a number of initiatives in HCD under way or recently in Azerbaijan. What is missing is a clear statement of goals and targets, mid term and short term. In a number of documents and papers we have seen reference to the so called “European standards” in education. We believe this definition is way too vague and should be replaced with more quantifiable merits.

What also seems to be lacking is any comprehensive assessment of the HC situation.

### **Significance of the Problem**

The Government policy in the past was not announced publicly and openly. There is a scope of documents prepared inside the Government, in particular by the Ministry of Education, the main regulator in this field (2005 State Programme on Re-training of Teachers, 2005 State Programme on ITC for the schools, 2007 State Programme on ICT for schools, 2007 State Programme on Prof-Tech schools, 2007 State Programme on New Curriculum for schools, 2008 State Programme on Reform of the Educational System etc.). Most of them, however, bear declaratory rather than practical and hands on approach. We therefore should base on the practical steps by the Government when analyzing the HCD situation and policy.

The Government have undoubtedly invested a lot of resources in the physical infrastructure for education. Capital investments in education in 2008 only were above 250 m USD. The majority of schools were renovated and re-equipped. In many cases according to the standards similar or better than those adopted in the developed countries. The Government invested itself, as well as pushed the

private business to sponsor such projects. The efforts covered both schools in Baku and in the regions. The quasi state organization the Heydar Aliyev Foundation have participated actively too. The similar situation is with the higher educational institutions. Most of them were recently repaired and supplied with new equipment.

An opposite picture seem to be taking place with the vocational education and the so called “professional technical colleges”. This particular institutions were the base for engineering and technical skills development (to certain extent the similar to colleges concept). They are – “an unwanted child” of the local educational system. Formally 108 PT college exist in the country, however, most of them practically don’t exist at the moment, and unfortunately the universities did not absorb their capacities. There is a devoted State Programme on PT education adopted in 2007. We reviewed the program and feel that it does not contain much of a plan to rehabilitate the sector, rather a set of *bona fide* wishes. In most cases the employers have stepped in and in view of lack of such skills development mechanisms started their own prof-tech schools (say Customs Committee, Diplomatic Academy, Banking school etc). Though useful and reasonable this approach can not replace the old system and has still very big gaps.

One more area of concern is private education. The Government allowed a number of private colleges and universities to be registered in the 90-s of the last century. Very few of them survived and managed to create a good financial and technical fundaments. Even fewer have reasonable quality of education. However, we believe, the experience of some of them is very positive and should be learned in more details. The reason probably being the fact that as commercial entities these Universities were much more responsive to the needs of both clients (the students and parents) and indirect beneficiaries (employers).

The government is being relatively strict on licensing the private secondary schools. There are some but they seem to be under strong governmental control.

The Government is running and financing most of the Azerbaijani Educational system from the budget. The latter fact is even more complicated by the following facts:

- The number of teachers “army” is approximately 200,000. A huge burden for the state budget. They can not be made redundant for political reason, it is difficult to re-train them for organizational reasons. The system is oversized and difficult to reform.
- The majority of schools are also “poll stations”, directors of schools are “Heads of local electoral commissions”. Therefore, their appointment is in a number of cases a local political issue, not a mere “merit” based decision. This also does not contribute to the efficiency of school management.

We have witnessed an increasing number of Azerbaijani students graduating from the universities in the West. UK, France, Germany are the most popular destinations. Some of the graduates have joined local public service, private sector in Azerbaijan. Some stayed and got employed in the West. We believe this factor is of substantial importance for any new HCD policy should it be adopted.

b. We prepare this paper on the assumption that the HC situation in Azerbaijan has not improved in the last 10 years.

The direct proof of the above statement is:

Year on year worsening of the results of the State University Admission Tests – the only pan country school graduates test. The results get worse and worse from year to year. The following efforts by the middle level officials to disguise the problem by e.g. Issuing better=than=deserved graduation certificates does not mend the problem, it probably contributes to the worsening of the situation

We also base on the fact that though we witness substantial investments in the physical educational infrastructure we did not see much efforts to establish a better soft infrastructure (monitoring of HC, trainings for teachers, better curriculum, new good text books, educational software, reasonable and consistent HCD plan etc.)

c. According to the forecasts Azerbaijan has approximately a decade ahead during which it will be getting substantial revenues to support economic development.

It takes a bit more than a decade to educate a professional (10 years of secondary school plus 5 years in University). If Azerbaijan starts investing massively and systematically into education and skills development now by the moment oil revenues are down we will be just in time to capitalize on better educated people.

### **Why an integrated HCD Strategy is Necessary as soon as possible?**

a. Though Azerbaijan demonstrates substantial economic growth figures so far it did not managed to capitalize much on the inflow of oil & gas revenues to develop its Human Capital. HCD is in turn crucial for Azerbaijan for the times when the oil will be over and other development factors will need to step in to support the lifestyle and economy.

So far there was no consolidated approach to the problem. There seems to be enough financial resources to launch a comprehensive project for HCD, however, the efforts by the various institutes are scattered and not harmonized. We think a consolidated government policy approach is needed and should emerge as soon as possible.

One more important issue is a meaningful attempt to measure Azerbaijan's HC against similar indicator of other countries. We should also stress, that as internet develops at a space speed, the geographic proximity or distance of other HC markets is not as dominant as before. It would be more reasonable to measure against global figures and try to understand where we Azerbaijan is with its education, technical and linguistic skills, innovativeness etc.

b. The Government and private sector have to develop a joint plan. Participation of the private sector in the HCD policy formulation will provide for more participatory process and will be more efficient.

It is the Government's duty and natural interest to make sure that no child, regardless of his ethnic origin, religion, domicile or any other reason is deprived of the opportunities to study and actively contribute to HC formation.

We realize, that a child in a wealthy neighborhood in Baku and a child in a mountainous village in Gakh are unlikely to have identical starting position in respect of education and career, but we believe that an active “talent search” programmes would be a good instrument to compensate for such pitiful but common inequality at least for some children. Such programme will not only serve an obvious social goal but also become a contributor to HCD as such.

c. By the time the oil & gas revenues end the country should possess a labor force competitive at least regionally, with a number of areas, where Azerbaijan is competitive globally from technological point of view (oil & gas industry?).

The country should possess the educational system which is attractive for the students from abroad, or at least neighboring countries (Central Asia, Iran).

Private sector with the support of the Government should create clusters of business with technology and skills intensive businesses, competitive regionally.

### **Ways Forward**

There is a number of ways Azerbaijan can go in developing its HC.

#### a Heavy Government investments

Heavy Government investments seems feasible and doable at the moment. However, there is one substantial downside. It is the effectiveness of HC investments. Government dominated education is always in risk of budget cuts and bureaucracy. Such systems are very difficult to reform and develop. The army of teachers is an asset in the short and mid term, but a heavy burden in the long term. Plus there are always risks of turning the education into a dominantly matter of domestic political tactics, not education as such.

#### b Private sector (FDI and local business)

Private sector driven growth is much more efficient but the major downsides are the speed (business invests at its own pace and is driven by profit not social obligations) and vulnerability to economic downturn and change in market situations (in particular for FDI, they pack and leave if markets are down). Private sector is profit driven. When the times are good it pays for trainings, when the times are bad the training budgets are usually the first to be cut, and the expensive labour is the first to be redundant. The government should always monitor and cooperate with private sector in such situations (eg in Germany the companies are compensated for keeping the skilled jobs during the crisis times)

#### c Public private cooperation

Government incentivized and supported, but Private sector driven approach is something that brings the best results. And this is proven by a number of examples (Singapore, UK, Korea). The

Government should listen to the private sector and encourage it to pay for skills development through tax incentives, infrastructural subsidies etc. but be ready to invest directly when needed as well. This middle way seem to be politically feasible too.

However, what seems to be lacking is the culture of dialogue between private sector and the Government. And such dialogue is crucial to development of an efficient HCD policy. Any HCD strategy should have a goal of overcoming this disconnection as its integral part.

### **STREAMING.**

*To create a system of permanent measurement of HC, quantitative and qualitative, i.e. create an HCD stream, when every HCD institution is being followed by an independent flexible exam to check the performance and impact.*

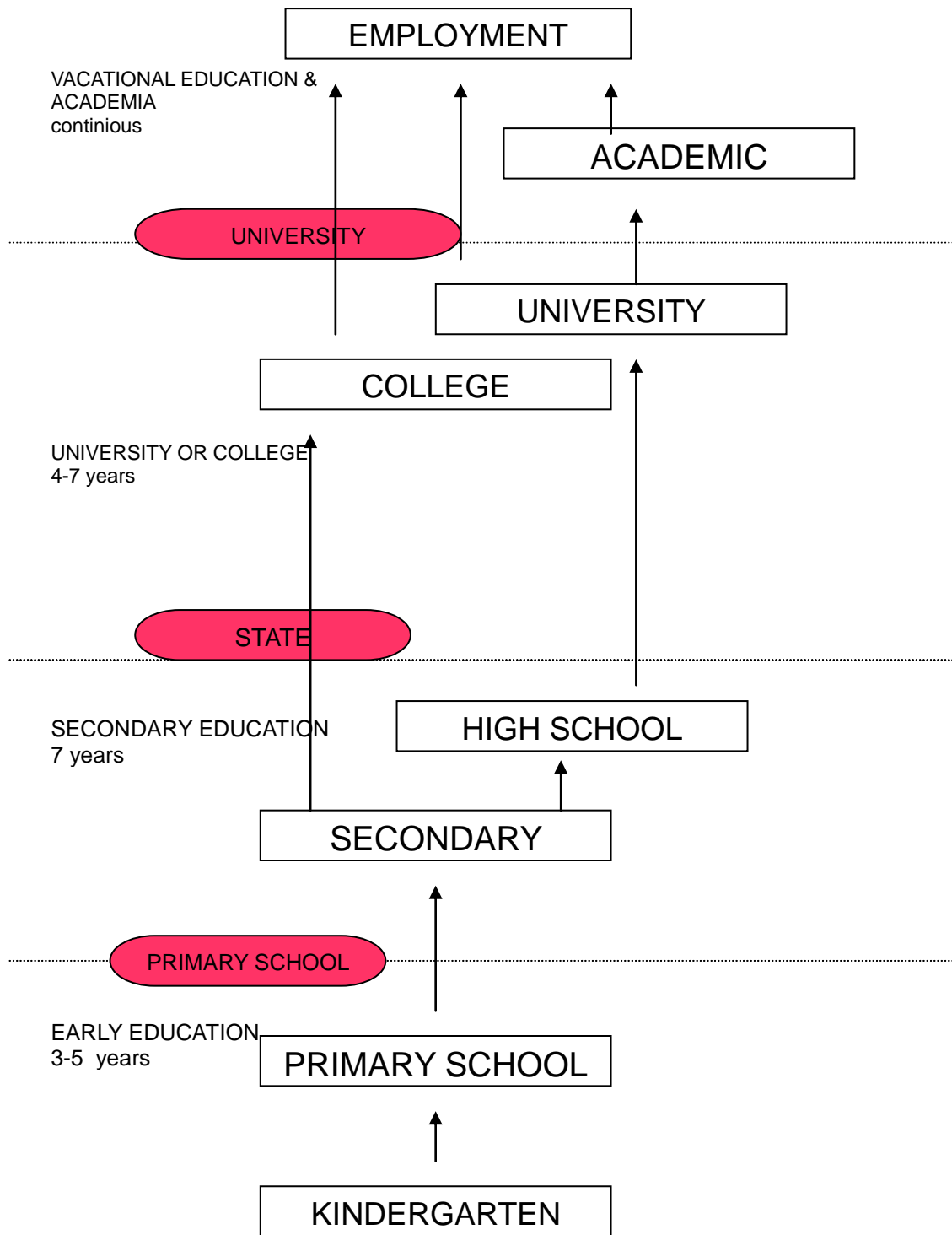
While preparing the study we had serious practical problem gathering on ground reliable information on HCD. This is largely due to the fact that the system of “streaming” the students in Azerbaijan is missing. The Government practically does not monitor the performance of students at various stages of getting educated. Obviously, any meaningful HC strategy without a proper HC monitoring is impossible. We therefore believe, the HC strategy should be preceded by collection of maximum possible information on HC situation.

We suggest the following 3 streaming national examinations to take place during the full educational cycle:

- 1      **Streaming Examination for Primary School Graduates (3<sup>rd</sup> year students);**
- 2      **Streaming Examination for High (Secondary) School Graduates (11<sup>th</sup> year graduates).**

Current existing Exam is University Enrollment Examination. We suggest to modify it and make it into an obligatory School Graduation Exam. This way all school graduates will be covered by (plus all university entrants) and the exam will become a truly national test.

# LANGUAGE SKILLS



### 3 **Streaming Examination for University Graduates.**

As one can see from the chart above we believe that every major step in educational cycle should be followed by a national exam.

As opposed to various State Exams as they are being practiced at the moment, by Streaming Exams we mean a national undertaking, i.e. centralised Test preparation and distribution, collection of tests and processing of results by a sole Agency (Probably the current State Students Admission Commission, the most experienced body in such projects), further analyses and presentation of results to the Government and public as appropriate.

We also suggest that in addition to the above National Obligatory Streaming Examination, various selective sample tests and opinion surveys to be carried out at different levels. For example, we would suggest **Pre-primary school selective tests**, in order to analyse the level of knowledge of children before schooling. We also suggest to run a regular **National Employers' Survey**, in order to understand the needs of future employers and to introduce the appropriate measures in the education. Other more specific studies will be necessary as well.

#### **SWOT / HCD PUBLIC DISCUSSION**

*Do a comparative analyses of Azerbaijan's strengths and weaknesses. Do a 20 years developmental model. Determine priority skills needed and adopt a Roadmap. Run an extensive public discussion.*

Obviously, design and introduction of the Streaming mechanisms above will require long time, a number of changes to legislation, probably a few years. We believe, however, that a major initial National HC survey should be carried as the first step of preparation of HCD strategy.

Such a Survey will serve as the information source for the SWOT and comparative analyses of Azerbaijan's HC. Below we suggest the very brief outline of the such Analyses:

***Quantitative analyses of Azerbaijan's HC.*** E.i. number of skilled professionals per industry, age statistics, employment statistics, geographical distribution of labour and skill and so on.

***Qualitative analyses of HC data.*** Assessment of dynamics of HC from quality prospective. E.g. we know that the number of PHD in Azerbaijan grew in last five years. But have the number of

inventions and patents went up? Do we publish more international research articles etc? What is the output of Azerbaijani R & D system?

***Comparative analyses of HC.*** To compare Azerbaijan's capacities with the HC of other countries similar in size and economic strength. To look at the most developed and least developed from HC point of view sectors of economy. See potential growth points, locomotives for HC growth (say, Oil & Gas expertise).

The findings and conclusions of the Survey to accumulate into a Publication (White Paper) and launch an active Public Discussion in the media. Involve R & D specialists, journalists, members of parliament, university professors and employers, and, not the least, students, as well as other social groups. Include the results of the discussion into the Survey.

### **INCENTIVES FOR HC AND PUBLIC INVESTMENT IN HCD**

***Create a system of legal, financial and administrative incentives for the non governmental actors (business, NGOs, private persons, foreign subjects etc.) to contribute to HCD (tax holidays, exemptions, grants etc.). Design the public investment program to support the HCD strategy.***

As we outlined above, we believe it is more feasible to adapt a mixed approach to HCD, i.e. rely heavily on partnership between private and public sectors. The Government should underpin the efforts of private sector by targeted public investment program, as well as incentivize private sector through fiscal and administrative mechanisms.

There is abundant international experience to be used. Such countries as Czech Republic and Malaysia actively use vocational training subsidies for investors. Norway and Kazakhstan co-invest into degree scholarships for national employers. Singapore has a special Fund to finance professional education. There are education related tax incentives in a lot of countries.

One could say that it is not correct to introduce educational incentives before full assessment of HC situation, which might take 3-4 years. We think, however, that such incentives are no harm and supporting education always pays back. What a fully fledged HCD strategy will do is help identify the most efficient ways of investing in education and adjusting fields.

## HUMAN CAPITAL DEVELOPMENT AGENCY.

*Setup a devoted HCD Agency, probably, with direct subordination to PM's office.*

Evidently the most successful HCD is one shared and supported by the Government, private sector, NGOs and other social actors, and implemented in close cooperation of the latter. However, such cooperation is usually possible only in very advanced and sophisticated systems. In case of Azerbaijan we suggest setting up a devoted Agency. Such Agency is expected to turn into a main advocate of HCD strategy. A political will on the top level of Government and support to such Agency are vital for success.

In this recommendations we did not dwell on the currently ongoing projects affecting HC. For example there are substantial efforts underway to introduce better internet for schools. We can only re-iterate the irreplaceable role of internet in modern education.

We also would like to stress the practical use of language skills, in particular, of business English, as one of the ways to open up the local HC for international market. Of course, there are always risks related to the so called “brain drain”, but we believe this is a problem to be dealt with at a much later stage.

We would also like to make a recommendation regarding international aspect of HCD strategy. In addition to the State Scholarship for Azerbaijani students abroad, we would suggest considering set up of the so called “centres of excellence” in the azerbaijani education, i.e. university department or R & D centres where international expertise is intensively passed on to the local students and researchers.

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