Project Information Document/
Integrated Safeguards Data Sheet (PID/ISDS)

Concept Stage | Date Prepared/Updated: 13-Jul-2018 | Report No: PIDISDSC24921

BASIC INFORMATION

A. Basic Project Data

Country	Project ID	Parent Project ID (if any)	Project Name
Armenia	P167561		EU4Innovation STEM Project (P167561)
Region	Estimated Appraisal Date	Estimated Board Date	Practice Area (Lead)
EUROPE AND CENTRAL ASIA	Dec 03, 2018	May 31, 2019	Education
Financing Instrument	Borrower(s)	Implementing Agency	
Investment Project Financing	Ministry of Finance	Ministry of Education and Science	

Proposed Development Objective(s)

The proposed development objective is to increase the capacity of the NIE to formulate and manage key policies affecting education quality.

PROJECT FINANCING DATA (US$, Millions)

SUMMARY

Total Project Cost	5.10
Total Financing	5.10
of which IBRD/IDA	0.00
Financing Gap	0.00

DETAILS

Non-World Bank Group Financing

Trust Funds	5.10
European Commission Development Fund - TF	5.10

Environmental Assessment Category	Concept Review Decision
B - Partial Assessment	Track II-The review did authorize the preparation to continue

B. Introduction and Context

Country Context

While Armenia reduced poverty in recent years, it has one of the highest poverty rates in ECA and performs poorly in boosting income growth among the bottom of the welfare distribution. The share of the population living below the national poverty line fell from 53.5 percent in 2004 to 29.4 percent in 2016[1]. Between 2010 and 2015, mean consumption of the bottom 40 percent grew at 3.4 percent, which was below the 4.3 percent growth for the overall population.[2] These divergent growth patterns between relatively poor and non-poor households resulted in increasing inequalities, such that the Gini coefficient for consumption rose from 0.265 in 2010 to 0.286 in 2016. With an elasticity of growth to poverty reduction of 2.6 between 2010 and 2015, the transmission of growth to poverty has been low since 2010, a median performance in the region. To renew its inclusive growth, Armenia now faces the challenge of unleashing new growth and job creation drivers. To do so, the recent strong economic rebound and positive economic outlook provide a useful platform for reforms.

After stagnating in 2016, the economy performed very strongly in 2017. Growth is estimated to have rebounded in 2017 to 6.7 percent with strong consumption and a moderate expansion of gross investment. Growth was concentrated in industry, services and retail trade, as agriculture sector performance was weak due to bad weather. Foreign trade rose by 27 percent in 2017. About 75 percent of export growth was due to higher exports of minerals and ready food products.

The Armenian economy is expected to grow by about 4.2 percent in 2018 with a modest but sustained recovery over the medium term. Improvement in tax collection and flatting current expenditures will permit higher capital expenditure, and the deficit is expected to gradually decline to below three percent of GDP. Improved tax administration and efficiency in current spending are expected to make room for stronger public capital spending. A positive external environment should facilitate exports of goods and services, supported also by improving productivity of Armenian businesses.

The expected sustained recovery scenario lends itself to various opportunities. The greatest opportunity comes from seizing the opportunity presented by the resumption of growth to accelerate the implementation of major structural reforms to: (i) help open domestic markets to more competition, seize export opportunities and overcome connectivity and infrastructure constraints; (ii) develop the private sector, including by removing barriers to entry; (iii) remove disincentives to labor participation and improve labor productivity; and (iv) build national resilience on multiple fronts, including on the macro-fiscal area.

Armenia's development challenges include low human development indicators, regional and gender inequities, and demographic trends. Armenia is ranked 84st on the UN's Human Development Index, which is below the ECA average and countries including Azerbaijan (78), Kazakhstan (56), and Belarus (52).[3] Seventy percent of Armenia's poor live in secondary cities and rural areas, and nearly 30 percent of the rural population lives below the national poverty line. Regional disparities will thus need to be addressed if Armenia is to spread gains from development and reform. Armenia also remains one of the lowest ranking ECA countries on the World Economic Forum's Global Gender Gap Index (97th among 144). While gender equality outcomes in Armenia are broadly comparable with regional and income comparator

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[1] In 2015, 13.5 percent of the population lived below the World Bank lower middle-income class international poverty line of $3.2 PPP 2011

[2] Source: ECAPOV (World Bank database of harmonized consumption data). Consumption aggregate from national household survey ILCS, harmonized for international comparison.

[3] http://hdr.undp.org/en/countries/profiles/ARM (2016 data)

groups, there remain areas where gender inequalities persist, including in the areas of labor participation and earnings. [4] Lastly, Armenia's demographic profile is a challenge to its reform ambitions, as the decline in the working-age population adds to the sense of urgency to improve labor productivity and participation. [5]

The coming years provide a unique reform momentum to put Armenia on an accelerated path to reduced poverty and increased shared prosperity. This new reform momentum is supported by the confluence of several factors, including the conclusion of the constitutional reform; the recent signing of the Comprehensive and Enhanced Partnership Agreement (CEPA) with the European Union (EU); a strong rebound in economic growth in 2017 combined with a positive economic outlook; and a renewed interest from the diaspora in engaging with economic development. In May 2018, a new government was installed after a "non-violent velvet revolution". While the impact on the country's reform agenda remains to become clear, the peaceful nature of this transition has inspired confidence in Armenia's road ahead. The new Cabinet is expected to unveil its program in June 2018.

Sectoral and Institutional Context

Private sector development and labor market outcomes

The Armenia Development Strategy (ADS) 2014-2025 identifies the development of Armenia into a knowledge-based economy as a priority. It highlights strengthening Armenia's competitive advantages based on science and technology as a condition for development.

Employers face difficulties in recruiting and retaining workers with the required skills, and see workforce skills as a major obstacle to their activities. Roughly a third to half of Armenian companies report difficulties in recruiting staff in occupations such as professionals, service workers, and technicians. Employers are quite critical of the quality of workforce skills, especially modern firms, i.e. those firms which introduced new technologies or that have international contracts. A skills shortage was identified as a major obstacle by firms participating in the 2013 Enterprise Survey, including those at the technological frontier who introduced new products, invested in R&D, and upgraded their existing products during the boom years in Armenia.[6] According to the 2013-2014 National Competitiveness Report of Armenia, insufficient quality of human capital is one of the main binding constraints to the country's growth. Relatedly, a majority of employers are dissatisfied with the quality of education, especially with the extent to which education provides practical skills and updated knowledge. In addition to occupation specific technical skills, which employers tend to value most, employers find that young workers particularly lack more generic skills related to problem solving, critical and creative thinking, team work, languages, and leadership.[7]

Alleviating skill constraints of Armenia's firms is crucial to boost productivity and competitiveness, particularly for growing sectors and firms with high value-added, such as the information technology (IT) and high-technology industry.[8]

[4]http://documents.worldbank.org/curated/en/250481491242159715/pdf/113990-WP-P157626-PUBLIC-Armenia-Gender-Assessment-2016.pdf;

[5] http://hdr.undp.org/en/countries/profiles/ARM; http://documents.worldbank.org/curated/en/476801500273475872/pdf/117478-WP-P162262-PUBLIC-WBArmeniaEducationInternalStudyMay.pdf; https://data.worldbank.org/indicator/SM.POP.NETM?locations=AM;

[6] World Bank. November 2017. "Future Armenia: Shifting to a New Growth Model. A Systematic Country Diagnostic".

[7] Rutkowski, J. (2013). Skills Employers Seek. Results of the Armenia STEP Employer Skills Survey. Report number 98904. World Bank. Washington, DC, USA. http://microdata.worldbank.org/index.php/catalog/2567

[8] World Bank (2017). Republic of Armenia. Reducing Poverty and Improving Shared Prosperity Through Better Jobs, Skills, and Education. Education Global Practice, Europe and Central Asia Region, World Bank, Washington DC, USA

For example, since 2006, the IT and high-technology sector has become one of the fastest growing sectors in the country. According to the 2014 IT Skills Assessment in Armenia Report, the demand for IT specialists is expected to continue at an estimated rate of 17 percent per year, and the current number and quality of graduates is not enough to meet industry demand.[9] The skills assessment of graduates in IT and Engineering by Enterprise Incubator Foundation revealed that 73 percent of firms find that the practical knowledge of the graduates is below expectations. [10]

While employers report skill constraints, a large share of the labor force is unemployed or inactive. For example, the unemployment rate of youth (aged 15-24 years) was estimated at more than 30 percent in 2015.[11] The female employment rate, around 50 percent, is among the lowest in the ECA region, even despite the high educational attainment of women in the country. The co-existence of skill shortages with weak employment outcomes points, among others, to a skill mismatch that needs to be addressed to ensure that Armenia's human capital contributes more strongly to the countries' competitiveness, and to boost household incomes by increasing labor earnings.

The need to improve (labor) productivity is increased by the decline in the size of the working age population. Low fertility and net out-migration are projected to shrink the population by 10 percent (to 2.7 million) by 2050. Combined with Armenia's low female labor participation, these trends are expected to increase the ratio of economic dependents (children under 14 years of age and adults aged 65 and older) to the economically active (those active among the 15-64 age group) from 60 percent in 2015 to almost 80 percent in 2030. A new growth model for Armenia will need to tackle these trends, which will soon pose fundamental constraints on economic growth and shared prosperity. In addition to increasing labor participation rate, improving labor productivity will be crucial to address this challenge, which will be impossible without strengthening the quality and relevance of the skills base of Armenia's current and future workforce.[12]

Education sector

Overall the education sector has seen improvements but continues to present challenges. Attainments is high on average but biased toward the non-poor. School coverage has improved but issues of equity and quality persist, with rural students at a particular disadvantage. Teaching practices, instructional materials and textbooks are outdated and curricular goals are not closely aligned to modern labor market needs.   Institutional capacity to guide change is limited.

The educational attainment of Armenia's population is high, especially among the non-poor and urban population. Access to general education is now near universal, with 91.6 percent net enrollment of the age cohort in general education in 2015.[13] The average years of schooling among the working-age population is 12.5 years.[14] Over 20 percent of the working age non-poor have completed a university education, compared to 10 percent of the poor. Among the poor, 44 percent of the working age population have completed upper-secondary education, and an additional 15 percent completed secondary-level vocational. Spatially, rural residents have the lowest educational attainment with only 9 percent having completed tertiary education, compared to 25 percent in Armenia's secondary cities and 31 percent in Yerevan.[15]

Education – by influencing labor market outcomes – is a determining factor of household income. The poor tend to have lower levels of educational attainment, and show weaker attachment to labor markets. A higher percentage of adults

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[9] World Bank (2014). IT Skills Assessment in Armenia.
[10] Ibid.
[11] World Bank (2017). "Future Armenia: Shifting to a New Growth Model. A Systematic Country Diagnostic".
[12] Ibid.
[13] World Bank. (2015). Armenia: skills toward employment and productivity (STEP). Washington, DC.
[14] From SCD: We follow NSSRA's definition of working age as 15 to 75 years.
[15] World Bank. 2017. "Future Armenia: Shifting to a New Growth Model. A Systematic Country Diagnostic".

being employed in the labor market decreases the probability of being poor, and better education thus lays the foundations for individuals and households to escape poverty.[16] The World Economic Forum's 2016 Human Capital Report ranks Armenia in 75th place out of 130 countries in the quality of education.[17]

Teachers in rural areas of Armenia are less qualified than their urban peers and students are at disadvantages compared to their urban peers. Teachers in urban areas have higher levels of education than rural teachers.[18] According to an Open Society Institute report[19], the overwhelming majority of Armenia's unqualified teachers (estimated to be around 4,000 out of a total of 38,690, equivalent to 10
percent) work in rural schools. Learning outcomes in rural areas lag those of urban areas: In mathematics, the average 12th grade exam score of students from big cities was 14.3 (out of 20), compared to 12.1 and 11.9 for students from border areas and remote villages, respectively. In the 9th grade, scores were 13.3 (large cities), 12.3 (border areas), and 12.5 (remote villages).[20] Results from the TIMMS assessment equally show higher mathematics and science performance of 4th and 8th grade students in larger settlements compared to those in smaller places, with observed difference being larger for 8th grade than for 4th grade students.[21]

Traditional lecture-based teaching and disconnected theoretical content are still prevalent in Armenian schools while student-centered 'active learning' is relatively rare. The Armenian teaching force is aging. 44% of Armenian school teachers were above 50 years in 2015 compared to 30% of the OECD average. Teachers lack continuous access to high-quality professional development. Learning of STEM subjects among others, is theoretical and disconnected. A shift towards using modern, student centered teaching approaches, which according to research shows to have a positive impact on students' motivation requires securing teachers' access for subject specific and continuous professional development.[22]

The national curriculum of Armenia is fragmented, vague and overloaded. The national curriculum regulations and main documents are not harmonized and consistent. In numerous instances, links between the subject learning objectives, requirements to learners and subject core content in all levels of general education are not clear.[23] Curricula are overloaded with disconnected factual knowledge previously introduced and not updated or integrated with explicit learning goals. Where learning goals are included, they are articulated vaguely and generally and in some cases are identical for lower and upper secondary school (e.g. in case with biology).

Institutional Capacity to Guide Change is limited. The role of National Institute of Education (NIE) in Armenia is vague and it currently functions like a service delivery institution, carrying out various activities which are defined by annual contracts with the Ministry of Education and Science. Several specialized institutions were created since early 2000 in the field of examination and accreditation, textbooks, and the establishment of these organisations is either limited or overlaps with

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[16] Ibid.

[17] http://reports.weforum.org/human-capital-report-2016/economies/#economy=ARM

[18] Price-Rom A. 2016. "Education and Skills for Employment in Central and West Asia" Asian Development Bank

[19] Khachatryan, S., Petrosyan, S., Terzyan, G. 2013. "Assessment of Teacher Professional Development and Educational Content in the Context of General Education Reforms in Armenia." Open Society Foundations-Armenia, Barev Scientific Educational NGO.

[20] Assessment and Testing Center, Statistical analysis of the 9th grade final exams (school-leaving exams) in 2015; Statistical analysis of the 12th grade final exams (school-leaving exams) in 2015.

[21] Source: TIMSS 2011 International Results in Mathematics, p. 208-211)

[22] World Bank (2017). Republic of Armenia. Reducing Poverty and Improving Shared Prosperity Through Better JobsSkills, and Education. Education Global Practice, Europe and Central Asia Region, World Bank, Washington DC

[23] Study on Needs Assessment for the Revision of Curriculum, State and Subject Standards and Syllabi Within the Framework of Education Improvement Project, 2016.

the mandate and activities carried out by the NIE.

Because of these conditions, learning outcomes are low, especially for science. The 2011 TIMSS science and mathematics scores emphasize that the results of Armenian students are below average: 4th grade students' average scores in science were 416 in 4th grade and 437 in 8th grade. In mathematics, the average score in 4th grade was 452 and in 8th grade it was 467, all compared to an international average for both science and mathematics of 500.[24]

The World Bank support general education through the ongoing Education Improvement Project (EIP, P130182). This project, under implementation from 2014-2019, supports the review and improvement of the curricula and standards for all grades, extension of preschool coverage, improvement of the quality of general education and promotion of greater links between higher education institutions and the labor market. It is also supporting the National Center of Education Technology in strengthening its capacity to monitor Armenian schools, provide them with adequate ICT coverage and become a national center for educational statistics.

Relationship to CPF

The proposed Project is well aligned with the World Bank's draft Country Partnership Framework (CPF) for the Republic of Armenia FY2018-2022. The proposed Project would directly respond to both CPF objectives under the draft CPS's Focus Area 2: Enhancing Human Capital and Equity. Specifically, it would both enhance the quality and relevance of education, and improve access to economic opportunities for the poor and vulnerable. Furthermore, by improving the quality and relevance of human capital in a country where skill constraints are identified as an important impediment to economic growth, the project would also contribute to the draft CPS's Focus Area 1 on strengthening export enablers and firm competitiveness. Related to the Systematic Country Diagnostic that forms the analytical foundation of the future CPF, the project would respond to the challenges to improve labor productivity and human capital ("Challenge 3") and to strengthen private sector productivity and job creation ("Challenge 2").

C. Proposed Development Objective(s)

The proposed development objective is to increase the capacity of the NIE to formulate and manage key policies affecting education quality.

Key Results (From PCN)

1. The NIE gains capacity to manage and direct curriculum and textbook reform for general education
The NIE gains capacity to integrate teacher professional development with the introduction of modern, student-centered pedagogies, and the selection of educational texts and technologies.

D. Concept Description

Increasing capacity of the NIE to formulate and manage key policies affecting education quality
This activity will increase the capacity of the education sector to continuously improve the quality of teaching and learning in general education, especially with respect to the alignment of curriculum, textbooks, pedagogy, and teacher training. The Project would develop a series of activities to raise capacity to formulate policies and manage the implementation of

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[24] Source: TIMSS 2011 International Results in Mathematics, p. 38;40; https://files.eric.ed.gov/fulltext/ED544560.pdf

actions that bear directly on education quality. These would concentrate on the alignment of curriculum reform; improvement of textbook quality and relevance; introduction of modern, student-centered pedagogies; and training of teachers to utilize the inputs effectively to improve student learning. Actions would be set within and include the key actors with responsibilities for these areas, most especially the NIE. Coordination of curriculum reform with textbook improvement would be key areas of concern, as would aligning content goals with effective pedagogies, and the incorporation of educational technology.

Equipment and works for the regional pilot of new approaches to STEM teaching and learning
A regional pilot will be designed, implemented and monitored via a Bank-executed ASA (P167562). The regional pilot aims to strengthen the implementation of student-centered teaching and learning in STEM subjects in selected rural schools, with the intention to generate lessons learned and experiences to facilitate a nationwide roll-out. This present project will finance and procure equipment and minor works to support the implementation of the pilot.

Roll-out of EdTech equipment to promote STEM learning
Under the EU-financed EU4Innovation program, EdTech content and teacher training materials will be developed and piloted in schools in a (yet to be determined) pilot region. Provided that the MoES considers the pilot successful and that an expansion is appropriate, then this project will support the roll-out through the procurement and provision of equipment and materials to grades and/or schools that were not targeted by the pilot, and by the provision of training.

SAFEGUARDS

A. Project location and salient physical characteristics relevant to the safeguard analysis (if known)

The rehabilitation of school facilities under Component 2 will be implemented in Tavush Marz. The National Institute of Education (NIE) has several buildings across Armenia which could be selected for rehabilitation under the project. Beneficiary educational facilities are not pre-identified however and their locations are not known at present.

B. Borrower's Institutional Capacity for Safeguard Policies

Implementation of the recipient-executed elements of the programme will be the responsibility of the Ministry of Education and Science (MoES). Specifically, the Deputy Minister of MoES will be responsible for the implementation of the education policy decisions and will have the overall responsibility for both components, will coordinate and support work of other agencies involved in the implementation, and will monitor, evaluate, and report on project activities, progress, and outcomes. The MoES will be supported by the Center for Education Project (CEP), acting as the Project Implementation Unit, and the National Institute of Education (NIE). Although MoES and CEP have been involved in the implementation of the Bank-supported projects in the past and performed well in that capacity, including the management of civil works activities under an active Category B project, the recent change in government makes it difficult to evaluate the borrower's current institutional capacity. The borrower's capacity will be assessed during project preparation.

C. Environmental and Social Safeguards Specialists on the Team

Darejan Kapanadze, Environmental Safeguards Specialist
Satoshi Ishihara, Social Safeguards Specialist

Sophia V. Georgieva, Social Safeguards Specialist

D. Policies that might apply

Safeguard Policies	Triggered?	Explanation (Optional)
Environmental Assessment OP/BP 4.01	Yes	The project intends to carry out rehabilitation of school classrooms and potentially National Institute of Education (NIE) buildings following an infrastructure needs and systems analysis. Rehabilitation activities would include a limited amount of civil works such as conversion of classrooms into labs, refurbishment of existing rooms, and procurement of equipment. There could be environmental issues associated with the design, construction, operation, and maintenance of the infrastructure works – such as poor ventilation, inadequate sanitation facilities, unreliable energy access, etc. Considering the impacts are site-specific and can be mitigated with proper planning, design, and execution, the proposed operation is classified as Category B. Each intervention proposed for a specific site will be subjected to careful screening according to the Environmental and Social Management Framework (ESMF) to be developed during project preparation. ESMF will carry provision ruling out project support to any activity carrying high environmental and social risks that would place them in an environmental Category A according to OP/BP 4.01. An important principle for selecting buildings for rehabilitation and preparing design documents will be to screen them for any structural damage and instability that would require either addressing the faults or excluding those buildings from the project. Social risks concern minor gender risks related to the teacher corps and student population which will be mitigated by promoting gender-sensitive training and teaching practices including via learning materials that will be developed through the project and gender-disaggregated monitoring indicators where appropriate. No other substantial social risks are identified.
Performance Standards for Private Sector Activities OP/BP 4.03	No	Project does include private sector activities.
Natural Habitats OP/BP 4.04	No	Project will finance minor rehabilitation of existing buildings in urban setting; hence, no impact on natural and/or critical habitats is expected.

Forests OP/BP 4.36	No	Project will finance minor rehabilitation of existing buildings in urban setting; hence, no impact of forests may occur.
Pest Management OP 4.09	No	Project will not finance procurement and/or application of pesticides; neither activities that may influence their use.
Physical Cultural Resources OP/BP 4.11	Yes	Considering the age of most of Armenia's building stock, there is the potential that buildings suggested for rehabilitation with support of the project will carry historical value. OP/ BP 4.11 is therefore triggered to ensure that the process of selecting sites for rehabilitation involve checking if any of the buildings are formally registered on the list of the nation's historical and/or cultural heritage. In such cases the building renovation designs will need to be cleared with the national authorities responsible for the preservation of cultural heritage to ensure that historic/cultural value of such buildings are not compromised as a result of improvement works. These provisions will be included into the ESMF.
Indigenous Peoples OP/BP 4.10	No	There are no indigenous people in project-affected areas.
Involuntary Resettlement OP/BP 4.12	No	The project would finance minor rehabilitations of rural schools that participate in the pilot, and possibly minor rehabilitations of NIE buildings, within the boundary of existing premises. Social risks and impacts are negligible since all civil works would be carried out within the existing premises without any impact on private lands or assets. Potential social risks and impacts will be mitigated by including in the Environmental and Social Management Framework (ESMF) and the Project Operations Manual clear screening processes including screening criteria to exclude negative impacts on private assets from rehabilitation works to be financed under the project. OP 4.12 will not be triggered.
Safety of Dams OP/BP 4.37	No	Project will not finance any works related to dams and/or activities that may be influenced by construction/operation of dams.
Projects on International Waterways OP/BP 7.50	No	Project will not finance activities capable of affecting international waterways in any manner.
Projects in Disputed Areas OP/BP 7.60	No	Project will not finance activities in the disputed areas.

E. Safeguard Preparation Plan

Tentative target date for preparing the Appraisal Stage PID/ISDS

Dec 31, 2018

Time frame for launching and completing the safeguard-related studies that may be needed. The specific studies and their timing should be specified in the Appraisal Stage PID/ISDS

The Environmental and Social Management Framework (ESMF) will be developed and cleared prior to appraisal. Site-specific ESMPs will be developed in accordance with the ESMF as the project sites are identified during implementation.

CONTACT POINT

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APPROVAL

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