APPENDIX 1: COUNTRY INDICATORS AND THE RESULTS FRAMEWORK

Table A1.1: Country Economic Indicators

Item	Fiscal Year					
	2000	2001	2002	2003	2004	2005[a]
A. Income and Growth						
1. GDP per capita ($, current)	593.5	659.1	739.9	874.1	1,106.1	1,513.0
2. GDP growth (%, in constant prices)	5.9	9.6	13.2	14.0	10.1	13.9
a. Agriculture	(1.1)	11.7	3.8	4.2	14.5	11.2
b. Industry	12.9	4.2	22.9	27.6	7.2	19.8
c. Services[b]	3.5	11.2	16.8	10.3	12.4	10.6
B. Saving and Investment (current and market prices, % of GDP)						
1. Gross domestic investment	18.6	19.8	21.7	24.3	23.9	28.3
2. Gross national saving	(0.6)	(3.3)	8.0	13.4	19.7[c]	20.9[c]
C. Money and Inflation (annual % change)						
1. Consumer price index	(0.8)	3.1	1.1	4.7	7.0	0.6
2. Total liquidity (M2)	38.8	4.4	28.8	15.1	8.1	—
D. Government Finance (% of GDP)						
1. Revenue and grants	16.7	16.5	16.8	18.0	15.9	16.7
2. Expenditure and onlending	21.6	20.8	19.4	19.3	17.6	17.7
3. Overall fiscal surplus (deficit)	(4.9)	(4.3)	(2.6)	(1.3)	(1.7)	(1.0)
E. Balance of Payments						
1. Merchandise trade balance (% of GDP)	(24.2)	(19.8)	(15.5)	(15.5)	(12.9)	(11.0)[c]
2. Current account balance (% of GDP)	(14.6)	(9.4)	(6.2)	(6.7)	(4.5)	(3.1)[c]
3. Merchandise export ($)	309.9	353.1	513.8	696.1	738.3	947.0[c]
Growth (annual % change)	25.3	13.9	45.5	35.5	6.1	28.2[c]
4. Merchandise import ($)	773.4	773.3	882.5	1130.2	1196.3	1481.0[c]
Growth (annual % change)	7.2	0.0	14.1	28.1	5.8	23.8[c]
F. External Payments Indicators						
1. Gross official reserves (including gold, $ million	314.7	331.2	432.3	504.1	550.0	669.3
months of imports equivalent)	3.9	4.0	4.7	4.3	4.4	—
2. External debt service (% of exports of goods and services)	10.7	9.7	9.8	15.6	9.7	—
3. Total external public debt (% of GDP)	44.9	42.7	43.2	39.1	33.3	23.0
G. Memorandum Items						
1. GDP (current prices, AMD billion)	1,031.3	1,175.9	1,362.5	1,624.6	1,896.4	2228.0
2. Exchange rate (AMD/$, average)	539.5	555.1	573.4	578.8	533.5	457.7
3. Population ('000, year-end)	3,215.3	3,212.9	3,210.3	3,212.3	3,215.8	3218.5

GDP = gross domestic product.
[a] Preliminary.
[b] Does not include Financial Intermediation Services Indirectly Measured (FISIM).
[c] Asian Development Bank staff estimates.
Sources: Ministry of Finance and Economy, Central Bank of Armenia, National Statistical Service, and Asian Development Bank staff estimates.

Table A1.2: Country Poverty and Social Indicators

Item	1998		2002		Latest Year	
A. Population Indicators						
1. Total population ('000, year-end)	3232.1		3,210.3		3,218.5	[2005]
2. Annual population growth rate (% change)	(0.2)		(0.1)		0.1	[2005]
B. Social Indicators						
1. Total fertility rate (births per woman)	1.5		1.2		1.4	[2003]
2. Maternal mortality rate (per 100,000 live births)	23.0		0.9		22.0	[2003]
3. Infant mortality rate (below 1 year per 1,000 live births)	15.6	[2000]	14.0		11.6	[2004]
4. Life expectancy at birth (years)	72.3		73.0		72.9	[2003]
a. Female	75.2		75.9		75.8	[2003]
b. Male	69.1		69.8		69.9	[2003]
5. Adult literacy (%)	98.3		98.4	[2000]	99.4	[2003][a]
a. Female	97.4		97.6	[2000]	99.2	[2003][a]
b. Male	99.2		99.3	[2000]	99.7	[2003][a]
6. Primary school gross enrollment (%)	96.2	[1995]	98.5		—	
7. Secondary school gross enrollment (%)	86.1	[1999]	86.3		—	
8. Child malnutrition (% below age 5)	3.3		3.0	[2000]	2.6	[2001]
9. Population below poverty line (%)[b]	55.1	[1999]	49.7		39.0	[2004]
10. Population with access to safe water (%)	—		84.7	[2001]	87.3	[2003]
11. Population with access to sanitation (%)	—		62.8	[2001]	60.2	[2003]
12. Public education expenditure (% of GDP)	3.2	[1999]	3.2		—	
13. Human development index	0.70	[1995]	0.74	[2000]	0.76 (Rank 83)	[2003]
14. Gender-related development index	—		—		0.76 (Rank 62)	[2003]
C. Poverty Indicators						
1. Poverty incidence	55.1	[1999]	49.7		39.0	[2004]
2. Percent of poor to total population[c]						
a. Yerevan	56.6	[1999]	43.8		29.4	[2004]
b. Aragatson	57	[1999]	72.1		47.8	[2004]
c. Ararat	49.4	[1999]	45.4		36.7	[2004]
d. Armavir	36.7	[1999]	51.6		46.8	[2004]
e. Gegharkunik	43.4	[1999]	47.2		51.6	[2004]
f. Lori	61.7	[1999]	44.6		33.0	[2004]
g. Kotayk	60.3	[1999]	55.9		47.4	[2004]
h. Shirak	77.3	[1999]	73.6		58	[2004]
i. Syunik	50	[1999]	32.7		34.5	[2004]
j. Tavush	27.6	[1999]	42.2		26.7	[2004]
k. Vayots Dzor	34.7	[1999]	53.2		38.3	[2004]
3. Poverty gap	19.0	[1999]	13.5		9.9	[2004]
4. Poverty severity	9.0	[1999]	5.2		3.5	[2004]
5. Inequality (Gini coefficient by consumer expenditures)	0.37	[1999]	0.36		0.35	[2004]
6. Human poverty index	—		—		—	

— = not available, GDP = gross domestic product.
[a] The latest year is 2001.
[b] In 2004, the poverty line for Armenia was AMD13,373 (about $43).
[c] These figures are not representative except for 2004.
Sources: National Statistical Service; United Nations Development Programme. 2005. *Human Development Report*. New York.

Table A1.3: Progress Toward the Millennium Development Goals and Targets

Goals and Targets	Country Status	
	Earliest/Benchmark	Latest
Goal 1: Eradicate Extreme Poverty and Hunger		
Target 1: Halve between 1990 and 2015, the proportion of people whose income is less than $1/day.		
Indicator 1: Percentage of population below $1 a day (1993 PPP)	7.5 (1999)	0.1 (2003)[a]
Indicator 2: Poverty gap ratio	0.3 (1990)	8.9 (2003)
Indicator 3: Share of poorest quintile in national consumption	6.6 (1999)	10.1 (2003)
Target 2: Halve, between 1990 and 2015, the proportion of people who suffer from hunger.		
Indicator 4: Prevalence of underweight children under 5 years	—	2.6 (2001)
Indicator 5: Proportion of population undernourished	27.7 (1996)	7.4 (2003)
Goal 2: Achieve Universal Primary Education		
Target 3: Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling.		
Indicator 6: Primary education completion	94.0 (2000)	90.0 (2001)
Indicator 7: Net enrolment ratio in primary education	97.3 (1990)	97.0 (2003)
Indicator 8: Youth literacy rate	99.5 (1990)	99.8 (2003)
Goal 3: Promote Gender Equality and Empower Women		
Target 4: Eliminate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later than 2015.		
Indicator 9: Ratio of girls to boys	0.99 (2000)	0.95 (2001)
a. In primary education	1.03 (1990)	0.97 (2003)
b. In secondary education	1.24 (1999)	1.49 (2003)
c. In tertiary education	1.00 (1990)	1.26 (2003)
Indicator 10: Ratio of literate females to males (aged 15–40)	49.20 (1990)	49.70 (2001)
Indicator 11: Share of women in wage employment in the nonagricultural sector	—	5.30 (2003)
Indicator 12: Number of seats held by women in national parliament	36.00 (1990)	5.00 (2005)
Goal 4: Reduce Child Mortality		
Target 5: Reduce by two thirds, between 1990 and 2015, the under-five mortality rate.		
Indicator 13: Under-five mortality rate	24.0 (1990)	13.6 (2003)
Indicator 14: Infant mortality rate	19.0 (1990)	11.6 (2004)
Indicator 15: Proportion of 1 year old children immunized against measles	95.2 (1990)	93.8 (2003)

Goals and Targets	Country Status	
	Earliest/Benchmark	Latest
Goal 5: Improve Maternal Health		
Target 6: Reduce by three quarters, between 1990 and 2015, the maternal mortality ratio.		
Indicator 16: Maternal mortality ratio	38.5 (1990–92)	22.0 (2003)
Indicator 17: Proportion of births attended by skilled health personnel	98.6 (1990–92)	99.2 (2003)
Goal 6: Combat HIV/AIDS, Malaria, and Other Diseases		
Target 7: Have halted by 2015, and begun to reverse, the spread of HIV/AIDS.		
Indicator 19: Condom use rate of the contraceptive prevalence rate	—	6.9 (2000)
Target 8: Have halted by 2015, and begun to reverse, the incidence of malaria and other major diseases.		
Indicator 21: Prevalence and deaths associated with malaria	1.0 (1990)	0.0 (2003)
Indicator 23: Prevalence and deaths associated with TB	92.0 (1990)	4.8 (2003)
Indicator 24: Proportion of TB cases detected and cured under DOTS	84.4 (1996)	44.7 (2003)
Goal 7: Ensure Environmental Sustainability		
Target 9: Integrate the principles of sustainable development into country policies and programs and reverse the loss of environmental resources.		
Indicator 25: Proportion of land area covered by forest	11.2 (1990)	11.0 (2003)
Indicator 26: Ratio of area protected to surface area	10.0 (1990)	10.0 (2003)
Indicator 27: Energy use (kg oil equivalent) per $1000 GDP (PPP)	612.0 (1992)	4.8 (2002)
Indicator 28: CO_2 emissions and consumption of ozone-depleting CFCs		
a. CO_2 emission per capita (metric tons per capita) from all sources	1.1 (1992)	1.0 (2002)
b. Consumption of ozone depleting CFCs (ODP tons)	9.0 (1992)	172.0 (2003)
Target 10: Halve, by 2015, the proportion of people without sustainable access to safe drinking water.		
Indicator 30: Proportion of population with access to an improved water source	84.7 (2001)	87.3 (2003)
Indicator 31: Proportion of population with access to an improved sanitation	62.8 (2001)	60.2 (2003)
Target 11: By 2020, achieve a significant improvement in the lives of at least 100 million slum dwellers.		
Indicator 32: Proportion of households with access to secure tenure	91.5 (1990)	92.0 (2001)

Goals and Targets	Country Status	
	Earliest/Benchmark	Latest
Goal 8: Develop a Global Partnership for Development		
Target 16: In cooperation with developing countries, develop and implement strategies for decent and productive work for youth.		
Indicator 45: Unemployment rate of 15–24 year olds	2.4 (2001)	2.2 (2003)
Target 18: In cooperation with the private sector, make available the benefits of new technologies, especially information and communications.		
Indicator 47: Telephone lines and cellular subscribers per 100 population	16.8 (1999)	24.5 (2004)
Indicator 48: Personal computers in use per 100 population	1.6 (2000)	2.5 (2003)

CFC = chlorofluorocarbon, CO_2 = carbon dioxide, DOTS = directly observed treatment strategy, GDP = gross domestic product, HIV/AIDS = human immunodeficiency virus/acquired immunodeficiency syndrome, kg = kilogram, NSS = National Statistical Service, ODP = ozone depleting potential, PPP = purchasing power parity, TB = tuberculosis.

[a] Even though extreme poverty in 2003 was more than 7%, indicator 1 has a value of 0.1 because extreme poverty is based on NSS data for income, which is low due to widespread underreporting. On the other hand, the definition of income in indicator 1 factors in income from remittances and informal employment which therefore shows a value of 0.0 for population below $1 a day.

Source: National Statistical Service; United Nations Development Programme. 2005. *Millennium Development Goals: Nationalization and Progress*. New York; Asian Development Bank-United Nations Development Programme-United Nations Economic and Social Commission for Asia and the Pacific. 2005. *A Future Within Reach: Reshaping Institutions in a Region of Disparities to Meet the MDGs in Asia and the Pacific*.

Table A1.4: Country Environment Indicators

Indicator	2000	Latest Year
A. Energy Efficiency of Emissions		
1. GDP/Unit of energy use (PPP$/kgoe)	3.6	5.0 [2002]
2. Traditional fuel use (% of total energy use)	—	—
3. Carbon dioxide emissions		
a. Tons	15,521.1	—
b. Kg per capita	4.8	—
B. Water Pollution: Water and Sanitation		
1. Urban population with access to safe water (%)	—	97 [2002]
2. Rural population with access to safe water (%)	—	77 [2002]
3. Urban population with access to sanitation (%)	—	96 [2002]
C. Land Use and Reforestation		
1. Forest area (thousand hectares)	463.3	—
2. Average annual reforestation		
a. Hectares	—	801 [2004]
b. % change	—	14.4 [2004]
3. Rural population density (people/km^2 of arable land)	206.2	202.2 [2002]
4. Arable land (% of total land)	17.6	17.6 [2002]
5. Permanent cropland (% of total land)	2.3	2.3 [2002]
D. Urban Areas		
1. Urban population (year-end)		
a. Million	2.1	2.1 [2004]
b. % of total population	67.2	64.1 [2004]
2. Per capita water use (liters/day)	—	—
3. Wastewater treated (%)	—	—
4. Solid waste generated per capita (kg per day)	—	—

— = not available, GDP = gross domestic product, kg = kilogram, kgoe = kilograms of oil equivalent, km^2 = square kilometer, PPP = purchasing power parity.

Sources: National Statistical Service; World Development Indicators Online; World Bank; United Nations Development Programme. 2005. *Human Development Report*. New York.

Table A1.5: Development Coordination Matrix

Sector/Thematic/Area	ADB Strategy/Activities	Other Development Partners' Strategy/Activities
Agriculture and Natural Resources	Improve the irrigation infrastructure as a key to enhancing agricultural productivity and rural incomes. Promote growth of rural entrepreneurship, agroprocessing, and rural small and medium-sized enterprise (SME) development.	**World Bank:** Irrigation Development Project ($24.9 million) aims to enhance the profitability and sustainability of irrigated agriculture, providing the basis for stabilizing irrigated agriculture as a predominant source of productive employment. Natural Resource Management Project ($8.3 million) aims to adopt sustainable natural resource management practices and alleviate rural poverty in mountainous areas where environmental degradation is now reaching a critical point. The project will help avert further deterioration of natural resources (soil, water, forest, fishery, and biodiversity) and stabilize incomes in the local communities. Irrigation Dam Safety Projects (I and II) ($26.6 million and $6.8 million) aim to protect the population and the socioeconomic infrastructure downstream of the dams facing the highest risk of failure. Rural Enterprise and Small-Scale Commercial Agriculture Development Project ($20.0 million) aims to help targeted farmers and rural entrepreneurs have a better link with markets, increase their income from rural activities, and increase employment opportunities in rural areas. **International Fund for Agricultural Development:** The Rural Areas Economic Development Programme ($15.3 million) aims to increase sustainable employment of rural communities in mountain areas and stimulate economic growth in rural areas. **United States Agency for International Development (USAID):** Agribusiness Small and Medium Enterprise Development Project ($13.6 million) aims to strengthen the capacity of SMEs, agricultural support organizations, and financial institutions. **United States Department of Agriculture:** Marketing Assistance Project ($6.9 million) assists farmers and agribusinesses in production, marketing, and exporting food and related products to increase incomes, create jobs, and raise the standard of living of Armenian workers. **Food and Agriculture Organization (FAO):** Support for the preparation and implementation of land consolidation and improved land management schemes ($0.32 million). The project will contribute to a viable and sustainable agricultural structure, and strengthen rural and regional development. **Millennium Challenge Corporation (MCC):** Provide a $146 million project to increase the productivity of approximately 250,000 farm households (34% of which are headed by women) through improved water supply, higher yields, higher value crops, and a more competitive agricultural sector. This project consists of two components: (i) an **infrastructure** component that aims to increase the amount of land under irrigation by 40% and will improve efficiency by converting from pump to gravity-fed irrigation, reducing water losses and improving drainage; and (ii) a **water-to-market** component that will improve the efficiency of water delivery to farmers and boost farm productivity and profitability through technical assistance (TA) and credit support.

Sector/Thematic/Area	ADB Strategy/Activities	Other Development Partners' Strategy/Activities
Education		**British Council (BC):** BC works with the Association of English Language Teachers of Armenia to build an organization that fully represents the interests of all English language teachers in Armenia. **United Nations Development Programme (UNDP):** The objective of the 2005 National Human Development Report is to initiate a national debate on education in Armenia, and promote the open society agenda by supporting broad public participation and civic engagement in public policy. It is expected that the National Human Development Report on education will be an important advocacy tool and knowledge asset for highlighting and addressing development needs in education. Analyzing Labor Market-Education Links Project: The objective is to help the Ministry of Education to reform vocational and higher education making it relevant to labor market's needs. **World Bank:** Education Quality and Relevance Project ($19.0 million) aims to improve the quality and relevance of the Armenian school system to meet the challenges of the knowledge society.
Energy	Promote regional cooperation by upgrading/building regional energy transmission networks that are connected to neighbors' networks and exploit the country's hydro-energy resources for export. Improve rural energy supplies to promote a better standard of living.	**European Bank for Reconstruction and Development (EBRD):** EBRD signed a sovereign-guaranteed transaction in Armenia for Hrasdan thermal power plant (TPP) Unit #5 in 1993 for €42.3 million. However, the work was never completed on this project as cost overruns significantly exceeded funds available. The station remains uncompleted while the state continues to repay the loan. The rest of the Hrasdan complex has recently been sold to Russia (RAO Unified Energy Systems) in a debt-for-assets swap, with RAO Unified Energy Systems retaining an option on Unit #5. EBRD continues to try to identify grant funds for continued conservation work at this unit to ensure that it may be completed at a future date if funding becomes available. EBRD also agreed in 2001 to invest equity alongside a strategic investor for privatization of the power distribution companies. However, the eventual successful bidder (Midland Resources) was not considered acceptable to EBRD (as at the time it had no power distribution experience), leading to the cancellation of this project. However, it appears that Midland Resources is currently managing the distribution business reasonably well and is now benefiting from TA from USAID. The World Bank is monitoring the performance of the company closely. In September 2005, the Government of Armenia gave its preliminary consent to the sale of the distribution company to Russian RAO Unified Energy Systems. **German development cooperation through Kreditanstalt für Wiederaufbau (KfW):** Two energy projects (€32 million)—Emergency Aid Program Energy, which aims to rehabilitate the Kanaker hydropower plant; and Rehabilitation Program Power Transmission, which aims to overhaul the two substations in Kamo and Vanadzor. The third substation is currently in reconstruction, which upon its completion will contribute to integrating Armenia into regional power transmission systems and conducting energy trade with neighboring countries by increasing the stability of energy exports from Armenia to Georgia. **Japan Bank for International Cooperation (JBIC):** First official development assistance (ODA) loan amounting to ¥5.4 billion to Armenia: Supporting Construction of Electricity Transmission and Distribution Network.

Sector/Thematic/Area	ADB Strategy/Activities	Other Development Partners' Strategy/Activities
		UNDP: Improving the Energy Efficiency in Municipal Heating and Hot Water Supply Project aims to reduce greenhouse gas emissions resulting from current heat and hot water supply practices in Armenian cities, by laying the foundation for the sustainable development of heat and hot water supply services in these cities while taking into account global environmental impacts. **USAID:** USAID energy programs are designed to create a foundation for a restructured, market-driven energy sector. Interventions focus on increasing private sector participation, increasing economic and environmental efficiency, and developing more diversified sources of energy. In 2004, the electricity and natural gas sector reform activity helped to improve payment discipline and reduce financial losses. **World Bank:** Electricity Transmission and Distribution Project ($21.0 million) aims to (i) improve the measurement and accountability of electricity and revenue flows between generation, transmission, and distribution companies; (ii) reduce technical losses in electricity transmission and distribution systems, and improve system reliability; and (iii) improve the commercial performance and financial condition of Armenergo (national dispatch company) and the High Voltage Electric Network Company (transmission company). • Urban Heat Project ($15.0 million) will support implementation of the Urban Heating Strategy for multi-apartment buildings and improve heating in schools through the following components. Component 1: community and private sector mobilization and development of an enabling environment for effective and safe provision of heating services; Component 2: financing of heating and related building infrastructure; Component 3: investments in installation and rehabilitation of gas-based heating systems and basic thermal rehabilitation in urban schools; and Component 4: TA and logistical support to the Renewable Resource and Energy Efficiency Fund for project implementation, monitoring, and supervision.
Finance	Improve regulation and oversight of the financial sector. Invest in equity in financial institutions, participate in SME funds and include local banks in the Asian Development Bank's (ADB's) Trade Finance Facilitation Program to improve private sector access to longer-term financing. Through its Private Sector Operations Department, offer equity, debt, and guarantee financing for private sector infrastructure projects.	**EBRD:** Focuses on further expansion of SME and microenterprise financing. Funding will mainly be provided through credit lines to local partner banks and direct equity investments. Supports existing and additional banks. In June 2005, EBRD granted Ineconbank a $1 million loan to onlend to local entrepreneurs. This loan was made under the multi-bank framework financing facility for SMEs, which has also provided loans to Agricultural Cooperative Bank of Armenia (2004 for €2.2 million), Anelik Bank (2003 for €733,000), and Armeconombank (2002 for €733,000). EBRD has also made an equity investment of €904,000 in Armeconombank to expand lending facilities, and €1 million in IBSB for investment in local SMEs and facilitation of foreign direct investment (FDI) in the region.

Sector/Thematic/Area	ADB Strategy/Activities	Other Development Partners' Strategy/Activities
		German development cooperation through KfW: KfW has successfully completed a microfinance program, introducing a new credit technology in selected local partner banks. This has facilitated the access of Armenian SMEs to formal financial services. The total amount of this program was a €16.7 million loan and a €2.2 million grant for accompanying consultancy. KfW has also supported the Central Bank of Armenia (CBA) in its endeavors of establishing the Deposit Guarantee Fund for securing the safety of small-sized deposits of physical entities. The total project cost is €3.9 million, of which €3.5 million will go to the newly established fund. KfW has hired experts for supporting the CBA in drafting the law and respective regulatory documents, backing the public relations campaign and providing necessary staff training. Another program, which is currently in preparatory stage, is the promotion of the sustainable mortgage lending market in Armenia. The German Government intends to provide a total loan amount of €12 million, and an additional grant of €1.5 million. **International Finance Corporation (IFC):** IFC has initiated the establishment of the first leasing company in Armenia, Agricultural Cooperative Bank of Armenia Leasing. Focuses on providing long-term funds to local banks for onlending to SMEs and housing finance. IFC is also considering TA on housing finance and banking corporate governance.
Health and Social Protection		**International Finance Corporation (IFC):** IFC has initiated the establishment of the first leasing company in Armenia, Agricultural Cooperative Bank of Armenia Leasing. Focuses on providing long-term funds to local banks for onlending to SMEs and housing finance. IFC is also considering TA on housing finance and banking corporate governance. **European Commission:** Started the Food Security Programme in Armenia in 1996. The main objectives are to help increase food security; contribute to poverty reduction; and assist the smooth transition to a market economy, particularly in the areas of agriculture and land reform. A total of €67 million was allocated to Armenia in 1996–2003, apart from the TA component. The support is focused on the areas of agriculture, health, cadastre, social security, statistics, and family benefits. **German development cooperation through KfW**: Provided €2.6 million for the completed project on technical modernization of hospital equipment and €2.25 million for the ongoing fight against tuberculosis. **Japan International Cooperation Agency:** Provided ¥518 million for the project for Improvement of Medical Equipment for the Armenia Republican Medical Center in 1999. **UNDP:** Creation of the Social Monitoring and Analysis System aims to help ensure effective implementation of the Monitoring and Civil Society Participation components of the Government's Poverty Reduction Strategy Paper (PRSP) by strengthening the national capacity for monitoring and analysing human poverty, vulnerability, and inequality. Regionally disaggregated intermediate indicators will be developed as well as specific indices and baselines for tracking regional disparities on human development and poverty. The capacity of government officials and civil society organisations in monitoring and analysis will also be strengthened.

Sector/Thematic/Area	ADB Strategy/Activities	Other Development Partners' Strategy/Activities
		USAID: Social Transition Sector ($8.1 million) program seeks to strengthen and assure the sustainability of key aspects of the social safety net, while providing critical services to the most vulnerable. Activities focus on supporting the Government in reforming its pension, poverty family benefit, and health benefit programs; and providing short-term employment. • Health Sector ($6.2 million) program focuses on strengthening primary healthcare, mainly through family medicine and strengthening service provided by rural health posts. **World Bank:** Health Systems Modernization Project ($19.0 million) aims to support the implementation of the Government's health reform program by expanding access to quality primary health care; improving the quality and efficiency of selected hospital networks, and laying the groundwork for effective health sector policy and monitoring.
Industry and Trade	Expand trade opportunities by improving regional roads and railways and extending ADB's Trade Finance Facilitation Program to local banks.	**Black Sea Trade and Development Bank:** Assistance to SMEs to enhance their work quality and production ability that will create larger business opportunities and enliven economic undertakings in important spheres such as production, services, transport, and the food industry. High-level TA and transfer of the best business experience will have a positive influence on improvement of Armenia's investment atmosphere. **EBRD:** Expanding its Trade Facilitation Programme to further strengthen financial intermediation. EBRD will seek suitable equity investment opportunities in local banks. EBRD has made direct investment as follows: €1.25 million in 2004 into a direct investment facility for expansion of a construction materials producer, €4.25 million in 2002 for the Armenian Copper Programme to improve the production efficiency of copper smelters, and over €1 million in 2004 to Anelik Bank as a credit line for onlending to SMEs. In 2000, EBRD provided €14 million to Yerevan Brandy Company for permanent working capital and development of export markets. **German development cooperation through German Agency for Technical Cooperation (GTZ):** Supports promotion of private SMEs in regard to trade, production, and services. **UNDP:** Support to Small and Medium Entrepreneurship Development in Armenia aims to work in collaboration with other donors and the Government to strengthen SME support centers in the regions. The cost of the project is shared with the Government, which provides more than 50% of all funds. Project components are (i) strengthen the capacity and performance of SMEs and its regional branches, (ii) improve the quality and accessibility of business support services for SMEs and establish online business consulting, (iii) increase the knowledge and skills of SMEs, and (iv) establish SME support infrastructures at the regional level. Assistance to the Implementation of Commitments Undertaken by Armenia within the World Trade Organization (WTO) Accession Framework aims to help the Government implement its commitments in compliance with WTO rules. Project components are (i) help to develop appropriate technical regulations and a system for implementing voluntary standards; (ii) prepare policy papers for implementing the Doha Development Agenda and help to develop a negotiation strategy related to market access, services, trade facilitation, dispute settlement, etc; (iii) help to fulfill all ongoing notification responsibilities and post-accession commitments; (iv) develop a strategy for introducing the new subsidy program in the agriculture sector; and (v) develop training materials on trade policy issues, WTO rules, disciplines, and agreements.

Sector/Thematic/Area	ADB Strategy/Activities	Other Development Partners' Strategy/Activities
Law and Public Sector Management		**BC:** BC works with the Government and civil society to advance debate, knowledge, and skills; and seek to create a wider appreciation of the United Kingdom as a valued partner in tackling key reform agendas and promoting sustainable development. **German development cooperation through GTZ:** Urban development and the promotion of municipal self-help institutions in selected municipalities; Capacity development and upgrading of the state financial controlling system; Support to Armenian legislative and judicial reform **Department for International Development (DFID):** Direct assistance program for Armenia consists largely of activities in public sector reform, and support to the World Bank Social Investment Fund. **International Monetary Fund:** Poverty Reduction and Growth Facility loan will promote structural reforms to help sustain growth and reduce poverty in the medium term. This $87 million loan will focus on improving tax and customs administration, enhancing fiscal transparency, restructuring the banking system, and reforming the energy sector. **UNDP:** Assists Armenia in developing the Law on Lobbying. Establishment of Municipal Service System aims to help lay the groundwork for the establishment of a municipal service system by creating the necessary legislative, educational, methodological, and organizational conditions. It is also aimed at strengthening the professional skills of the new generation of municipal servants. Performance Budgeting: Effective Mechanism for Local Development aims to support the introduction of performance budgeting into planning, monitoring, and evaluation processes at the community level. It will build on "conversion" experience obtained during the performance audit period and roll out the performance budgeting process in five city municipalities, as a foundation for building local capacity, further up-scaling successful pilots, and supporting targeted local development investments Support to Strengthening Coordination Capacities of the Ministry of Agriculture aims to strengthen the capacity of the Ministry of Agriculture to implement the National Strategy for Sustainable Agricultural Development and coordinate donor assistance. Priority areas for agricultural and rural development will be identified, communication flows between the Ministry and donor organisations will be improved, and the capacity of key departments in the Ministry will be strengthened. Building Capacity of Civil Society to Participate in Anti-Corruption Initiatives in Armenia aims to contribute to anticorruption initiatives by building public awareness and strengthening the capacity of civil society to participate in the implementation of the Government's Anti-Corruption Strategy. A comprehensive public awareness campaign will be launched and a regional network of trained civic groups will be established to track progress in fighting corruption in the education and health sectors.

Sector/Thematic/Area	ADB Strategy/Activities	Other Development Partners' Strategy/Activities
		Support to Information Society and Democratic Governance and E-Governance or Territorial Administration aims to contribute to the formation of an information society and promote good governance by establishing and implementing e-governance systems. To bridge the digitaldivide between Yerevan and the regions, the capacities of regional authorities to provide public information and online services will be strengthened. **USAID:** Democracy and governance activities ($7.4 million) seek to achieve more transparent, accountable, and democratic governance, by expanding civic participation and strengthening governance institutions. USAID supports activities that include technical support to the National Statistics Service for enumerating and analyzing data from the Armenian census. **World Bank:** Social Investment Fund II Project ($20.0 million) aims to assist the Government in its continuing endeavor to improve the living standards of lower-income groups and strengthen institutions at the local level. Social Protection Administration Project ($5.2 million) aims to improve performance by the labor and public employment, pension, and social assistance agencies in providing services to the population. Enterprise Incubator learning and innovation lending ($5.0 million) will help unlock the institutional rigidities that hinder the development of Armenia's human capital, in particular, as it relates to the business environment. The project has piloted innovative private-public mechanisms for providing business development services to nascent enterprises and continuous education to information technology professionals. The project has three objectives: employment creation and productivity, FDI, and continuous skills upgrading. Judicial Reform Support Project ($11.4 million) will assist in the development of an independent, accessible, and efficient judiciary—essential to governance, the rule of law, and an investment climate. Public Sector Modernization Project ($10.2 million) will assist the Government in its efforts to improve the transparency, accountability, effectiveness, and efficiency in public sector management. It will support civil service reforms; and make specific innovations in core public institutions, which should become a catalyst for further modernization efforts. It has five main components: strengthening civil service management, introducing e-procurement, strengthening the chamber of control, improving policy formulation and implementation through capacity building, and developing capacity in local governments. Foreign Investment and Export Facilitation Learning and Innovation Lending ($1.0 million) aims to improve the encouragement of prospective investment and exports through the establishment of a lead agency which will streamline transaction processing and implement a promotion strategy. Through this agency, the Armenian Development Agency, the project will help develop skills, operational systems, and procedures to facilitate private business needs.

Sector/Thematic/Area	ADB Strategy/Activities	Other Development Partners' Strategy/Activities
Transportation and Communication	Improve regional connections for road and rail transport and trade facilitation. Improve rural roads to improve the livelihoods of the rural population.	**Austrian Development Cooperation:** Air Transport Agreement between Austria and Armenia. **EBRD:** In 1994, EBRD made a direct investment of over €15 million in Yerevan (Zvartnots) air cargo terminal for improvement of the ground facilities and air cargo handling service. **JBIC:** Special Assistance for Project Formation Armenia Yerevan Zvartnots International Airport Development Project—designed to rehabilitate runways, parallel taxiways, apron, lighting equipment, and sewerage arrangements that are badly in need of repair. **Lincy Foundation:** Provided $82 million in grants for rehabilitation of 450 km main highways and urban roads in Yerevan. According to the Government, the Foundation plans to provide another $40 million for rehabilitation of highways and secondary roads. **MCC:** Will provide a $67 million project to rehabilitate up to 943 km of rural roads, more than a third of Armenia's proposed Lifeline road network. When complete, the Lifeline road network will ensure that every rural community has road access to markets, services, and the main road network. Under the Compact, the Government will be required to commit additional resources for maintenance of the road network. **Transport Corridor Europe Caucasus Asia (TRACECA):** Provided optical fiber cable to improve communications. The cable was installed on the Yerevan–Georgia railway link under the World Bank's Transport Project. TRACECA has also financed a number of transport sector studies. **World Bank:** Financed two projects for rehabilitation and maintenance of the main highways: (i) Highway Project ($36.9 million) was approved in September 1995 and completed in December 2000; and (ii) Transport Project ($47 million) was approved in June 2000 and completed by December 2004. The Transport Project also included a $15 million railway component involving upgrading of the railway line and operating infrastructure on the Yerevan to Georgian border section, and improving the financial and management of the Armenian Railways.
Water Supply, Sanitation, and Waste Management	Rehabilitate water supply systems to improve living standards of villages and small towns.	**German development cooperation through KfW:** Communal infrastructure: water and sanitation was initiated in 1998 (€29 million) and aims to ensure continual drinking water supply in the program region (cities of Armavir and Metsamor). **USAID:** A water management program works to improve the national framework for water quantity and quality monitoring, support local level efforts to develop market-based approaches to improving water quality, and strengthen the institutional and financial sustainability and operations of water supply entities. **World Bank:** Municipal Development Project ($30.0 million) aims to make emergency improvements in Yerevan's water supply system; improve the efficiency, management, operation, and delivery of water and wastewater services for the Yerevan service area; and lay the groundwork for the sustainable involvement of the private sector in the overall management of these services in Armenia. The project components include an immediate investment program, management contract, operating investment fund, capital investments, housing, and TA.

Sector/Thematic/Area	ADB Strategy/Activities	Other Development Partners' Strategy/Activities
		Municipal Water & Wastewater Project ($23.0 million) aims to improve the quality of water and wastewater services in the Armenia Water and Sanitation Company service area by providing efficient and sustainable water and wastewater services and strengthening the capacity and sustainability of the Armenia Water and Sanitation Company. The project will support a key country assistance strategy objective—financial and technical rehabilitation of Armenia's water and wastewater systems—by improving utility financial discipline with better cash generation and expenditure management, improving water & wastewater services, and rehabilitation of sector infrastructure. Yerevan Water & Wastewater Project ($20.0 million) has helped the Government to prepare a new project to improve Yerevan's water and wastewater system by continuing and expanding accomplishments achieved under the World Bank-financed Municipal Development Project.

Table A1.6: The Results Framework

I. Country's Long-Term Development Goals	II. Key Constraints	III. ADB Strategy	IV. Outcomes to be Influenced by ERIOS	V. Tracking Indicators and Milestones	VI. Assumptions and Risks
Goal 1. Mitigate rural poverty; promote sustainable agricultural growth (PRSP, para 116, 154)		**Enhance socially inclusive rural development**	**Agricultural growth continues to be the main factor for reducing rural poverty (PRSP, para 150)**		
1. Rural poverty reduction from increased productivity and sustainable high agricultural growth, irrigated farming, and land consolidation (PRSP, para 115, 150, 154, 155, 156).	Poor irrigation facilities and other degraded rural infrastructure, low yields, and small production volumes constrain the productivity and growth of agricultural production.	Rehabilitate agricultural and other rural infrastructure.	Lower rural poverty from high agricultural productivity and growth (PRSP, para 116).	Value added in agriculture rises from AMD330 billion in 2003 to AMD450 billion in 2009 (PRSP, Table 6.4); average annual growth in value added in agriculture 2.2% (PRSP, para 150); irrigation investment to GDP ratio rises from 0.6% in 2004 to 0.8% in 2009 (PRSP, Table 7.13).	Inadequate resources for major infrastructure rehabilitation.
2. Good road connectivity of village communities to town centers and markets (PRSP, para 115, 389, 391).	Lack of access to markets constrains growth of farm and rural nonfarm activities.	Rehabilitate rural roads and secondary town roads.	Higher rural incomes due to lower distance to markets (PRSP, para 153).	Road capital repair to GDP ratio rises from 0.8% in 2004 to 1.0% in 2009 (PRSP, Table 7.17); agricultural price indices grow 3% annually (PRSP, Table 6.4); share of commercial agricultural production rises from 43.5% in 2003 to 57% in 2009 (PRSP, Table 6.4).	Capital repair is funded from external resources. Lower than programmed funding may affect the target.
3. Higher rural living standards from better water supply system and municipal services (PRSP, para 115, 360, 376).	Poor rural water supply system keeps standard of living low.	Rehabilitate water supply system and improve other municipal services.	Improved access, availability, and quality of rural drinking water (PRSP, para 374). Improved waste collection and processing technologies (PRSP, para 366).	Investment in drinking water to GDP ratio increased from 0.4% in 2004 to 0.7% in 2009 (PRSP, Table 7.13). Improved living standards in rural areas.	Investment is mostly foreign. Lower than programmed funding may affect the target.

I. Country's Long-Term Development Goals	II. Key Constraints	III. ADB Strategy	IV. Outcomes to be Influenced by ERIOS	V. Tracking Indicators and Milestones	VI. Assumptions and Risks
4. Strengthening energy security for basic human needs and rural development (PRSP, para 398).	Poor reliability or absence of energy services reduces options for development of SMEs and lowers living standards.	Improve energy generation and distribution services.	Improved access to reliable energy services.	Increased capacity megawatt (MW) of diversified energy sources, including sustainable renewable energy supplies. Increased access to reliable energy supplies.	
Goal 2. Develop the private sector to reduce poverty and increase incomes (PRSP, para 213)		**Strengthen the private sector to promote employment opportunities and economic development**	**Private sector share of GDP rises from 70% in 2001 to 77% in 2009 (PRSP, Table 6.8)**		**The small size of the economy may limit opportunities**
1. Poverty reduction through availability of long-term financial resources (PRSP, para 227). Improved access of private enterprises to bank financing (PRSP, para 219, 220).	Limited access of private sector to medium and long-term financing.	Provide credit lines to financial institutions. Make equity investments in local banks, include local banks in ADB's Trade Finance Facilitation Program, and invest in investment funds.	Well-developed long-term financing resources (PRSP, para 227). Significantly wider access of private companies to financial resources (PRSP, para 214, 216).	Target indicator for financial market and nonbank financial institutions rises from 2.0 in 2001 to 3.0 in 2009. Target indicator for banking reforms and interest rate liberalization grows from 2.3 in 2001 to 3.0 in 2009 (PRSP, Table 6.8).[a]	
2. Strengthen the private sector industrial and infrastructure base and attract committed FDI (PRSP para 213, 214).	Mixed record to date in privatization and governance norms.	Targeted investments in private infrastructure to promote transparently-tendered, professionally-managed and sustainable enterprises that will act as role models for future private sector development.	Better managed private sector with increased FDI.	Better regulated infrastructure and improved corporate governance. Net FDI increases from $80 million in 2004 to $130 million in 2009 (PRSP, Annex 8) Private sector share in GDP rises from 73% in 2004 to 77% in 2009. Index for infrastructure reforms rises from 2.4 in 2004 to 3.0 in 2009 (PRSP, Table 6.8).[b]	

I. Country's Long-Term Development Goals	II. Key Constraints	III. ADB Strategy	IV. Outcomes to be Influenced by ERIOS	V. Tracking Indicators and Milestones	VI. Assumptions and Risks
3. Creation of business opportunities through microcredit (PRSP, para 113, 117). Commercialized agricultural sector (PRSP, para 151).	Use of credit in small businesses is inadequate and access to capital is limited. Share of agricultural credit in agricultural GDP is small (meets only 8% of demand).	Participate in SME funds for micro, small, and medium enterprises.	Well-established rural microcredit mechanism (PRSP para 161 (i), 224).	Share of agricultural credit in agricultural GDP grows from 3.1% to 6.1% (PRSP, Table 6.4); share of per capita income from self-employment rises from 9.8% in 2003 to 12% in 2009 (PRSP, Table 8.1).	
Goal 3: Improved regional cooperation; promotion of exports (PRSP, para 141, 214)		**Promote regional cooperation for sustained economic growth**	**Trade expands (PRSP, para 135)**		**Regional political stability is maintained; relations with neighbors improve**
1. Distance to external markets and cost of transport abroad reduced (PRSP, para 143/157)	Regional road and rail infrastructure in a state of disrepair.	Rehabilitate existing regional road and railways infrastructure and improve cross-border procedures.	Large-scale road (and rail) construction in operation (PRSP, para 157, 389) and increase in cross-border traffic.	Exports grow at 9.2% annually from 29.6% of GDP in 2002 to 31.9% in 2009 (PRSP, Table 6.1)	
2. Strengthened energy security for sustainable economic development. [c]	Heavy dependence on imported energy; limited access to international fuel markets because of geographical location.	Upgrade and build regional energy transmission networks.	Well-developed energy transmission network (PRSP, para 401)	Increased number of energy supply access options.	

ADB = Asian Development Bank, ERIOS = Economic Report and Interim Operational Strategy, FDI = foreign direct investment, GDP = gross domestic product, PRSP = Poverty Reduction Strategy Paper, SME = small and medium-sized enterprise.

[a] Numeral I in the table indicates insignificant changes compared to a central planning system; 4+ indicates standards comparable to developed countries.

[b] The PRSP was released in 2003, so the indicators may have to be revised when it is updated.

[c] 2005. *Energy Sector Development Strategies in the Context of Economic Development in Armenia adopted by the Government of Armenia on 23 June 2005 session (N 1 resolution of N 24 protocol).* Yerevan.

APPENDIX 2: SECTOR AND THEMATIC ASSESSMENTS

A. Agriculture and Rural Development

1. Overview of the Agriculture Sector and Rural Development

1. **Geography and Natural Resources**. Armenia is a mountainous country with about 90% of the territory located over 1,000 meters above sea level. About 60% of the country is suitable for agriculture. Distinct agroecological zones include the (i) semidesert zone, which occupies a wide area in the foothills where farming is possible only with irrigation; (ii) steppes, which are the major landscape type in Armenia; and (iii) Alpine meadow zone, which is a summer pasture region.[19] Current land use is 50% pasture, 35% arable land, 10% grassland, and 5% orchards and vineyards, according to 1997 land register data.

2. **Sector Growth and Rural Poverty.** In the 4–5 years following Armenia's economic collapse, the agricultural sector provided an important safety net in terms of food security and partial employment for those who had lost their livelihoods in other sectors.[20] Limitations on trade and investment opportunities with neighboring countries, and the collapse of the former Soviet Union (FSU) supply networks have reduced the agricultural sector's contribution to the economy. The sector's contribution to gross domestic product (GDP) fluctuated over the past decade from 12.6% in 1990 to a peak of 46.3% in 1993, to around 23% in the late 1990s and into the new decade. 2004 data indicates an upward trend in the agricultural sector with growth of about 14%,[21] which is largely attributed to an increase in agroprocessing activities. About 60% of the rural population is engaged in agriculture.

3. In the difficult years after transition until 2003, the level of poverty in rural areas was lower than the national average, mainly because the rural population could turn to subsistence farming for their basic needs. Since 2003, with significant growth in Yerevan, urban poverty has improved and is now less than in rural areas. However, non-Yerevan urban poverty is still higher and has deteriorated further in recent years, especially compared to rural poverty which declined from 47.5% in 2003 to 40.7% in 2004. Extreme poverty in rural areas has also declined from 6.8% to 5.0% in the same period but it has worsened in urban areas, especially Yerevan, where extreme poverty increased from 3.7% in 2003 to 6.2% in 2004.[22]

4. **Key Farm Characteristics.** Armenia's agricultural land resources were privatized in 1991–1992 when 70% of the land was transferred to private ownership. As of 1 January 2006, there are 339,174 family-owned farms producing about 97% of total agricultural production. The average farm has about 1.4 hectares (ha) of agricultural land, of which one third is irrigated and two thirds is dry land. An estimated 15% of farmers' fields are left uncultivated because of the poor quality of the land, unaffordable inputs, lack of water, or poor access to the farm.[23] As a result, arable land is gradually turned into pastures, which in turn become eroded, thereby accelerating land degradation and loss of agricultural potential. Yields are relatively low: the average yield of grain, which covers around 60% of the total cultivated area, was 1,608

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[19] Ministry of Nature Protection, Armenia. 2002. *National Action Programme to Combat Desertification in Armenia.* Yerevan.

[20] International Fund for Agricultural Development. 2003. *Country Strategic Opportunities Paper: Armenia*. Rome.

[21] World Bank. 2005. *Project Appraisal Document on a Proposed Credit in the Amount of SDR 13.3 million (US$ 20 million equivalent) to the Republic of Armenia for a Rural Enterprise and Small-scale Commercial Agriculture Development Project.* Washington, D.C.

[22] National Statistical Service of the Republic of Armenia. 2005. *Statistical Yearbook of Armenia, Year 2005.* Yerevan.

[23] Ministry of Agriculture. 2002. *A Strategy for Sustainable Agricultural Development*. Yerevan.

kilograms (kg) per ha in 1998–2001 compared to an average of 2,407 kg per ha in European and Central Asian countries.[24]

5. **Key Off-Farm and Agribusiness Characteristics**. Prior to the transition period in the early 1990s, the agribusiness sector was a major contributor to exports. However, the state-dominated processing sector was built with little attention to allocative efficiency and was designed to supply ready markets to countries of the FSU. Access to these and other markets is now restricted. Nevertheless, since 1997, there has been some recovery in agricultural processing. The main agricultural exports are beer, wine, brandy, and vodka valued at $44 million in 2002, totaling 10% of export earnings and 76% of agricultural exports. Fruit and vegetable processing and exports are also growing.[25]

2. Major Issues

6. Farm and off-farm problems are manifested in three main categories: (i) low overall productivity and returns from farming activity, (ii) low growth in the off-farm rural sector, and (iii) limited access and high cost of financing rural enterprises. These result in high levels of rural unemployment and underemployment, low rural incomes, and low rural growth.

7. **Economic Incentives.** Price policy does not appear to be a major constraint to agricultural development as few distorting price policies remain and the country has liberal trade policies with zero or low duties.[26] However, some policy issues are emerging as critical to the growth and development of agribusiness, such as the legislative process and the dissemination of laws and regulations, and, in turn, the extent of public awareness of the legal and enabling environment.[27]

8. **Markets and Institutions.** Market constraints exist on both the demand and supply sides. On the demand side, the loss of previously assured output markets and the failure to rapidly identify new markets have been worsened by the trade blockade. Urban domestic markets provide an outlet but are limited by high rates of urban poverty and limited purchasing power. On the supply side, production is heavily subsistence-based, with only 55.7% of production available as marketable surplus in 2004. Declining farm productivity has dire implications for the continued growth of off-farm agroenterprises, as access to raw materials becomes increasingly difficult. Weak market links, poor relationships between stakeholders in the value chain, and weak contractual relationships between producers and food processors discourage commodity exchange and increases trading costs, thereby limiting business development and further growth in the sector.

9. Low overall farm productivity is in part a reflection of the predominance of subsistence production and the choice of wheat as the preferred subsistence crop. The reliance on wheat for home consumption is understandable in view of the present level of household food insecurity. However, as a cash crop, it is barely profitable as imported grains are significantly cheaper than those produced locally.[28] Reliance on subsistence farming to ensure household food security

[24] Republic of Armenia. 2005. *Poverty Reduction Strategy Progress Report.* Yerevan.
[25] World Bank. 2005. *Project Appraisal Document on a Proposed Credit in the Amount of SDR 13.3 million (US$ 20 million equivalent) to the Republic of Armenia for a Rural Enterprise and Small-scale Commercial Agriculture Development Project.* Washington, D.C.
[26] World Bank, 2001. *Challenges and Government Policies in Armenia.* Washington, D.C.
[27] United States Agency for International Development. 1999. *Armenia Strategic Plan FY 1999–2003*. Washington, D.C.
[28] IFAD. 2003. *Country Strategic Opportunities Paper: Armenia*. Rome.

has resulted in high fragmentation of land following its rapid privatization after independence. The underdeveloped land market continues to constrain the consolidation of farms. Low productivity in commercial production leads to low profits because of inadequate farmer knowledge of commercial production, insufficient use of improved varieties, and low use of farm mechanization. Extension services focused on commercial cropping have low relevance and low coverage. The public perceives government institutions as inaccessible, overly bureaucratic, and lacking in transparency.[29] Farmers' access to information and institutions needed to support more market-oriented economic activity is difficult due to the general lack of services for the benefit of rural development.[30]

10. **Rural Infrastructure.** Water and land resource constraints are key causes of the low productivity of subsistence and commercial cropping. The availability of irrigation water is limited in most areas of the country as a result of deteriorated and nonfunctioning infrastructure and insufficient electricity generation for pumping. Poor operation and maintenance of the systems is partly due to low tariffs, covering just 30–60% of irrigation costs. Water user associations have been established to manage the secondary and tertiary irrigation and drainage infrastructure but are still weak, lacking technical and financial capacity.

11. The poor state of existing infrastructure also inhibits entrepreneurs from initiating or further developing business ventures in rural areas and discourages farmers from commercializing their operations. Rural roads in some areas are unusable for regular transportation. Most pastures and deforested areas urgently need improvement to prevent further environmental degradation. Most animal drinking facilities have deteriorated and are not functional. In many villages, there is no natural gas or domestic water supply network. The unreliability of services, as a result of deteriorated public infrastructure, is a major constraint to business development in rural areas.

3. Government Institutions and Agricultural Development Strategy

12. The Ministry of Agriculture is mandated to formulate and implement policy measures to enable sustainable growth in the agricultural sector. The Ministry of Territorial Administration, through the State Committee of Water System, is responsible for development of the country's irrigation systems. Budgetary resources allocated to the agricultural sector represented less than 5% of total state expenditures from 1994 to 2000. Consequently, financing public goods and service delivery to the sector from domestic resources is fundamentally unsustainable and the agricultural budget needs to be greatly supplemented by donor funds. This lack of adequate attention and resources to the rural sector adds to the public's general distrust of public service agencies. Furthermore, there is no formal authority to plan, implement, and manage rural infrastructure development as there is neither a lead agency in charge of rural development nor an interministerial body for rural development.[31]

13. The main government strategy document concerning agriculture and rural development is the National Strategy for Sustainable Agricultural Development, which was adopted by the Government in April 2004. The overarching objectives of the strategy are to (i) achieve real income growth of farmers through increased agricultural productivity in a sustainable manner; (ii) provide opportunities for real income growth of the off-farm rural poor; and (iii) improve the

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[29] United Nations (UN). 2003. *United Nations Development Assistance Framework (2005–2009): Republic of Armenia*. New York.
[30] IFAD. 2004. *Report and Recommendation of the President to the Executive Board on a Proposed Loan to the Republic of Armenia for the Rural Areas Economic Development Programme.* Rome.
[31] Ministry of Agriculture. 2002. *A Strategy for Sustainable Agricultural Development. Yerevan.*

food security of the urban population. To fulfill these objectives, the Government seeks to strengthen the efficiency of the agricultural sector for the domestic market, develop import substitution in the subsectors where Armenia has or can build comparative advantages, and develop exports in the appropriate subsectors. The Poverty Reduction Strategy Paper (PRSP) (2003)[32] recognizes the role of agriculture and the need for sectoral growth to substantially reduce rural poverty and inequality. One area that is crucial for increased productivity and farm incomes is the establishment of a land market with mechanisms to determine market value and lead to the recognition of land as collateral to enable increased credits to be applied for the development of the sector. Land market creation will also address the problem of land fragmentation leading to the enlargement of farms which, according to the PRSP, is one of the main preconditions for enhancing productivity.

4. Donor Assistance

14. The donor community has initiated projects and other interventions to address many aspects of the Government's agriculture and rural development strategy. The World Bank, through its Title Registration Project, has successfully established a registration system for land and other property. The United Nations (UN) Food and Agriculture Organization (FAO) is in the process of preparing a strategy on land consolidation; and the United Nations Development Programme (UNDP) recently completed a white paper on land reform, rural poverty, and inequality which is intended to promote public debate on issues concerning land fragmentation, consolidation, and concentration with the aim of contributing to the development of "pro-poor land policies".[33]

15. The United States Agency for International Development (USAID) and the US Department of Agriculture have a large presence in small and medium-sized enterprise (SME) development and marketing assistance. The World Bank is currently implementing a rural enterprise and small-scale commercial agriculture development project which addresses the priorities of community development and capacity building as well as strengthening the Government's decentralized agricultural extension system.

16. International Fund for Agricultural Development (IFAD) is implementing a project that includes a rural credit component and a rural infrastructure rehabilitation component. The rural infrastructure rehabilitation component will award grants for investments in public infrastructure that enable and enhance private sector investments and activities in rural areas of seven of the country's ten *marzes* (regions). About $10 million has been allocated for this purpose but applications of about $65 million for funding under this component have already been received from the marzes, and a request for further funding by the Organization of Petroleum Exporting Countries (OPEC) has been submitted to close part of the funding gap.

17. The Millennium Challenge Corporation (MCC) has formulated a major grant program for rural development with an allocation of $230 million over a 5-year period, of which about $200 million will support rural roads and irrigation system rehabilitation.

18. While the interventions currently under way and proposed for Armenia are designed to address many of the constraints relating to access to finance and rehabilitation of infrastructure, the resources being applied for these purposes are inadequate to address existing needs.

[32] Republic of Armenia. 2003. *Poverty Reduction Strategy Paper*. Yerevan.
[33] United Nations Development Programme. 2004. *Armenia White Paper-Land Reform, Rural Poverty, and Inequality: A Pro-poor Approach to Land Policies.* New York.

There is also inadequate donor support to strengthen and create market institutions, which are needed to further promote the development of rural agroprocessing and SME development.

5. Possible Areas of Intervention

19. The Asian Development Bank’s (ADB's) experience in East and Central Asia on agriculture and rural development can provide lessons for Armenia. Rural poverty in Armenia persists, despite declining, and a large gap remains between rich and poor. ADB can bring donor resources to bear on this problem, in particular the Japan Fund for Poverty Reduction (JFPR), which provides grant assistance for innovative poverty reduction and social development activities in ADB's developing member countries. A JFPR grant could provide assistance for the development of support services including research, extension, and outreach to poverty-prone, remote rural areas.

20. ADB also has a vast store of relevant knowledge and information gained from working on similar issues faced by the transition economies of the FSU in Central Asia. These include projects on improving land and water management, and addressing land degradation. Numerous projects on the rehabilitation of irrigation and drainage systems have been undertaken, and more are in the process of preparation with the aim of supporting sustainable management of natural resources and increasing farmers' incomes.

21. The rural economy has grown significantly in recent years, with agricultural sector growth reaching 11.2% in 2005 from a mere 3.8% in 2002 according to official estimates. This has been fueled by development of agroprocessing and SME development in rural areas. However, continued growth of this sector, which relies on locally produced raw materials, will stagnate without corresponding growth in agricultural productivity. Unfortunately, productivity at the farm level continues to decline. ADB can assist with the improvement of non-farm productivity and development of agribusiness, rural enterprise, commercial agriculture, and market development for the continuation of broad-based economic growth of Armenia's rural economy.

6. ADB Opportunities

22. Given the analysis of problems and solutions, current donor interventions, the ADB's current portfolio to support East and Central Asian countries, and experiences from other FSU transition economies, several opportunities are identified where ADB could add value to rural development in Armenia. Agribusiness, rural enterprise, and commercial agriculture development are addressed by a number of donors but geographic coverage issues related to rural and market infrastructure and sustainable resource management could represent opportunities for ADB assistance. From discussions carried out with government officials and other stakeholders during the Economic Report and Interim Operational Strategy Mission, it is proposed that ADB's operational focus for assistance to rural development include the following: (i) water and land management; (ii) inclusive rural economic growth; and (iii) environmentally sustainable development and conservation.

23. **Water and Land Management.** World Bank work on land titling addressed a key constraint to resolving land degradation and there could be opportunities for building on this progress through participation in extending FAO trials on the preparation and implementation of land consolidation and management schemes. Countrywide implementation of models devised under this initiative is a priority of the Government's strategy for land management, and represents a potential opportunity for ADB involvement.

24. **Inclusive Rural Economic Growth**. Opportunities for operations with regard to inclusive rural economic growth are related to market development and rural infrastructure rehabilitation. Potential interventions concerning market development could include technical assistance (TA) and strategic funding for wholesale market development, and organization of agroprocessing industries into associations or marketing cooperatives to access export markets and assist them to move further along their respective product value chains to realize the benefits of value addition. Rehabilitation of public infrastructure in rural areas would enhance the commercial prospects of private sector activities and create market opportunities for farmers to produce and sell the raw materials for processing and sales in the domestic and export markets. In this context, the Ministry of Agriculture requested that ADB provide cofinancing for the rural infrastructure rehabilitation component of the IFAD-OPEC funded Rural Areas Economic Development Programme, which has estimated a funding gap of approximately $55 million. It was suggested that ordinary capital resources funds could be considered for this purpose as long as the terms of such lending are softened by accompanying Asian Development Fund funds or a JFPR grant.

25. **Environmentally Sustainable Development and Conservation**. Fifty percent of the total agricultural land (694,000 ha) in Armenia is pasture, much of which is former state land used for communal grazing. Often, it is poorly managed, with the number of stock exceeding the carrying capacity of the land. This has led to severe soil degradation and soil losses. If a major earthquake were to occur, the instability of these denuded slopes could be catastrophic, as recently witnessed in Pakistan's Kashmir earthquake where the severity of landslides was partly due to overgrazing.[34] A concept for an intervention to support improved management of communal pastures would be needed to address this problem. The proposed approach would be to start small and, given the poverty focus, could lend itself to implementation initially through the JFPR.

B. Finance

1. Overview

a. Structure and Performance

i. Banking Sector

26. Like other transition economies, Armenia experienced significant financial turbulence during the transition process. Large amounts of nonperforming loans inherited from the Soviet era, coupled with new bad loans created due to continued government interference and banks' inexperience in risk management, led to the failure of several commercial banks during the 1990s. Another 10 banks failed in 2000–2002.[35]

27. The banking system has experienced significant consolidation, with the number of banks decreasing from 55 in 1994 to 21 at the end of 2004. The sector as a whole is liquid, well-capitalized, and profitable, although there is considerable heterogeneity across banks. The capital adequacy ratios are at a high level of 32%. Average return on assets was a strong 3.2% in 2004 and return on equity was 18%. Nonperforming loans average 7.2%. A mandatory

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[34] Armenia is also prone to earthquakes. In 1988, a major earthquake measuring nearly 8 on the Richter scale in the northwest of the country resulted in more than 45,000 fatalities and left 500,000 people homeless.

[35] The Central Bank of Armenia (CBA) administered and resolved eight banks; one was converted into a nonbank financial institution and another was liquidated.

deposit insurance scheme that became effective in July 2005 covers up to AMD2 million ($4,443 as of 30 March 2006) for local currency deposits and AMD1 million ($2,218 as of 30 March 2006) for foreign currency deposits per depositor. This is expected to enhance confidence in the banking sector.

28. All of Armenia's 21 banks are now privately owned. Nonresident investors, particularly from Russia, have significant stakes in a number of banks. Despite recent increases, bank credits at 8% and deposits at 6% of GDP are the lowest in the region. The Armenian subsidiary of Hong Kong and Shanghai Banking Corporation (HSBC) is the dominant bank with 18% of total sector assets and 25% of deposits. Bank loans are mostly short-term and therefore not conducive to long-term investment. Lending rates are 20.8% and deposit rates are 6.8%. High interest spreads are largely attributable to high credit- risks and the high operating cost of banks. The financial system is highly dollarized with bank loans ratio at 70% and liability dollarization ratio at 73%.

Country	No. of Banks	Interest Spread[b]	NPL (% of total loan)	No. of insurance companies	No. of listed companies	No. credit associations	Broad Money	Bank Assets	Bank Deposits	Insurance Premium	Equity Market Capitalization
							% of GDP				
Armenia	**21**	**14.0**	**7.2**	**24.0**	**196.0**	**—**	**15.0**	**19.0**	**6.0**	**0.4**	**0.8**
Azerbaijan	42.0	8.9	8.2	29.0	0.0[c]	28.0	18.0	18.0	12.0	0.8	0.1
Kazakhstan	35.0	9.0	13.1	36.0	69.0	52.0	21.0	49.0	30.0	0.7	7.5
Kyrgyz Republic	19.0	22.6	7.0	12.0	6.0	306.0	18.0	19.0	8.6	0.2	1.5
Mongolia	17.0	11.2	11.0	23.0	395.0	570.0	47.0	61.0	39.0	0.5	1.4

GDP = gross domestic product, NPL = nonperforming loan.
[a] Data are for 2003 or 2004, depending on availability.
[b] Difference between average lending rate and average deposit rate.
[c] Eighty-five companies are admitted for trading but none is listed on the stock exchange.
Sources: National Authorities; International Monetary Fund. Various issues. *International Financial Statistics*. Washington, D.C.; IMF. Various issues. *Financial Sector Assessments*. Washington, D.C.; IMF. Various issues. *Article IV Consultation Reports*. Washington, D.C.; European Bank for Reconstruction and Development. 2004. *Transition Report*. London.

Table A2.1: Summary Statistics for Selected Transition Economies[a]

29. Bank lending is concentrated in the industry, energy, and trade and commerce sectors. These sectors jointly account for 51% of total nongovernment loans. Bank lending to the agricultural sector declined from 11% in 2000 to 6.6% in 2004.

Table A2.2: Armenia: Banking Sector Financial Soundness Indicators

Indicators	2000	2001	2002	2003	2004
A. Capital Adequacy					
1. Total regulatory capital to risk-weighted assets	25.0	13.6	30.5	33.8	32.3
B. Asset Quality					
1. Nonperforming loans to total gross domestic nongovernment loans[a]	17.5	24.4	12.5	9.9	7.2
2. Provisions to nonperforming loans[b]	83.4	89.3	95.8	103.7	107.4
C. Earnings and Profitability					
1. Return on assets	(1.9)	(9.1)	3.9	2.7	3.2
2. Return on equity	(12.3)	(78.6)	21.6	14.4	18.4
D. Liquidity					
1. Liquid assets to total assets[c]	30.5	33.1	44.5	47.5	47.1
E. Sensitivity to Market Risk					
1. Foreign currency loans to total gross domestic nongovernment loans	85.9	84.7	82.5	72.7	70.4
2. Foreign currency liability to total liabilities	80.6	79.7	72.2	73.2	73.3

[a] All loans overdue by more than 90 days.
[b] Assumes 100% coverage of loss loans.
[c] Liquid assets include cash, correspondent accounts and other interbank deposits, and treasury bills.
Source: Gelbard, Enrique, Jimmy McHugh, Garbis Iradian, Christian Beddies, and Laurie Redifer. 2005, *Growth and Poverty Reduction in Armenia: Achievements and Challenges*. Washington, D.C.: International Monetary Fund.

ii. Nonbank Financial Sector

30. The nonbank financial (NBF) sector in Armenia comprises insurance companies, leasing companies, credit institutions, and pawnshops. The NBF sector accounts for only around 3% of total financial sector assets, and does not yet play a meaningful role in financial intermediation. The combined annual premium income of the insurance sector is only about $5 million. Aviation is the largest insurance class, accounting for nearly half of total premiums. A key step in the development of the sector will be the planned introduction of compulsory third-party liability motor insurance. The new insurance law adopted in 2004 will bring the minimum required capital to $200,000 and then to $1 million within 3 years. This is expected to foster a smaller number of stronger insurance providers. In the microfinance market, less than 10 organizations offer group-based credit, with a total clientele of less than 30,000. The current defined-benefit pay-as-you-go pension system suffers from low contributions and disbursement. Leasing and mortgage finance are in the early stages of development each approximately $1 million each in exposures in late 2004. There are no private pension funds.

31. The equity market, created following the privatization process in the 1990s, has capitalization of $23 million (0.8% of GDP) and turnover is less than 1%. The number of companies listed in Armenia's stock exchange almost doubled in 2002 but has since stagnated at around 190. No corporate bonds have been issued to date, and there are no institutional investors participating in the securities market.

32. The key laws that govern the financial sector include the Law on the Central Bank, Law on Banks and Banking, Law on Bankruptcy of Banks, Law on Insurance, Securities Market Regulation Law, and Law on Credit Institutions. Until recently, financial sector regulation and supervision was vested in three different agencies: (i) Central Bank of Armenia (CBA),

responsible for the supervision of commercial banks, other depository institutions, and leasing companies; (ii) Insurance Inspectorate in the Ministry of Finance and Economy; and (iii) the Securities Commission of Armenia, responsible for the regulation and supervision of capital market participants. The Armenian Stock Exchange and the Central Depository of Armenia are both self-regulatory organizations under the supervision of the Securities Commission of Armenia, which acts as registrar, depository, and clearing agent. New legislation establishing a unified regulation within CBA was enacted in January 2006. Authorities view this as an intermediate step toward a unified regulator—a financial supervisory authority—autonomous of the central bank over the long term. CBA is also the lead anti-money laundering agency in Armenia and has recently sent up a financial intelligence unit to enforce anti-money laundering legislation and regulations.

2. External Assistance to the Sector

33. IMF has provided a number of short-term TA projects for strengthening prudential regulation and supervision and for developing the deposit insurance scheme. Areas identified for World Bank support during 2005–2008 include (i) further strengthening of bank regulations and supervision; (ii) development of financial infrastructure, including the payments system and credit information bureau; and (iii) establishment of an anti-money laundering regime. The World Bank has recently approved a $20 million Rural Enterprise and Small Scale Commercial Agriculture Development Project to provide long-term finance and capacity building for small-scale rural businesses. This project will be implemented in close coordination with IFAD's Rural Areas Economic Development Program, which will provide credit lines to commercial banks for onlending to rural businesses ($15.3 million).

34. In 2003, the International Finance Corporation (IFC) supported the development of the first privately owned leasing company in Armenia by providing $2.27 million in loan and equity finance to the Agricultural Cooperative Bank of Armenia Leasing. It has also approved the SME Risk Capital Fund ($5 million in equity and quasi-equity), which is pending commitment. IFC is preparing its first investment in an Armenian bank, Armeconombank, which serves SMEs, retail clients, and financial institutions. The proposed $2.0 million senior loan to Armeconombank will be used to broaden the bank's funding base for onlending to SMEs and for residential housing projects. IFC is also considering an equity investment of up to $1.0 million to support Armeconombank's capital base.

35. A multibank onlending facility of €10 million was activated by the European Bank fro Reconstruction and Development (EBRD) in early 2002. Within the framework of this facility, EBRD has credit lines for micro and small enterprises with three local banks. A Trade Facilitation Program with the purpose of improving Armenian banks' access to trade financing was also made available to four Armenian banks.

36. German development cooperation through Kreditanstalt für Wiederaufbau (KfW) has supported SME development by providing credit lines to qualifying banks from a revolving fund through the German-Armenian Fund. The objective of the KfW project is to deliver short-term loans (maximum 36 months) for SMEs. KfW has also recently approved a mortgage finance project aimed mainly at improving the living conditions for medium and lower-income groups in Armenia, extending the loan maturity to 10 years, and introducing local currency lending.

3. Issues and Opportunities

37. **Corporate Governance and Consolidated Supervision.** Over the past few years, bank regulation and supervision have strengthened considerably. However, lack of an effective consolidated supervision framework contributes to weak corporate governance. Many banks are closely held limited liability companies with few owners. The responsibilities and accountabilities of bank board members and management are not well-defined. Moreover, while CBA collects information on the banks' owners at the licensing stage, it does not systematically monitor subsequent changes in ownership structures. As a result, CBA does not have adequate information to monitor and manage risks from related party exposures.

38. **Secured Transactions Framework.** Bank lending is largely based on collateral, which many SMEs and low-income households do not have. To strengthen creditor rights and facilitate financial intermediation, the Government has recently amended legislation and simplified the procedures for registering pledges. However, collateral enforcement is inadequate because the judicial system is weak and limited information is available for the collateral registry. Weak debt recovery increases loss because of default, thereby contributing to wide interest margins and limiting access to credit.

39. **NBF Sector Development.** As noted above, the financial sector is dominated by banks, and the NBF sector does not contribute to resource mobilization and allocation. Excessive reliance on the banking sector limits the availability of long-term funds for productive investment and makes the economy vulnerable to shocks. Key measures needed to improve the NBF sector include the enforcement of the recently adopted Law on Insurance through the issuance of implementing regulations, and capacity building for effective regulation and supervision of the sector. The orderly entry of reputable foreign insurance companies could also be crucial in increasing the range of insurance products available and in spurring the development of the sector. Reducing reporting and regulatory burden on non-traded/non-listed companies and implementing policies that encourage listing in the Stock Exchange could bolster the market. To achieve the latter, encouraging the entry of a foreign reputable stock exchange as a private developmental partner in the capital markets, as well as the internationalization of the Armenian capital markets and cross-border trade in securities and stocks could be a viable strategy for the Government over the longer term. Pension reforms that introduce multi-pillar pension system to improve the public pension scheme as well as to introduce private pension funds are also key to capital market development.

40. **Small and Medium-Sized Enterprises and Rural Finance.** SMEs are typically labor-intensive and therefore an important source of employment and household incomes. An increasing number of SMEs are now being established in rural areas for production, processing, and service provision. These activities are mostly agricultural. However, the development of rural businesses and SMEs is constrained by lack of access to financial services. While a number of donors are providing funds through commercial banks or directly to enterprises, there is significant unmet demand. A survey of 365 SMEs (265 in Yerevan and 100 in rural areas) conducted by KfW in August 2004 indicated that lack of access to financial services is the most important constraint to SME development. Only 53 of the 131 respondents who indicated that they needed loans for business expansion were able to borrow from banks.

41. **Housing Finance.** The Armenian housing finance market is at an early stage of development. While housing loans have increased in recent years, mortgage rates are high, and with a few exceptions, the maximum maturity available is 5 years. Banks' funding constraints (small and unstable amounts of term deposits) and weak risk assessment capacities are

important impediments to the development of the mortgage market. There are also considerable legal and regulatory constraints. In addition to the weaknesses in the secured transactions framework outlined above, ownership and mortgage rights relating to land parcels with existing buildings are not clear, and the auction procedures for the sale of mortgage collateral after defaults are cumbersome.

C. Private Sector

1. Environment for Private Sector Operations in Armenia

42. Following severe contraction during the early 1990s, the Armenian economy has experienced almost uninterrupted growth since 1994. Average growth of over 10% in 2004 and 14% in 2005, low inflation, an improving current account and external debt condition, and Armenia's 2003 accession to the World Trade Organization (WTO), all point to a favorable macroeconomic environment for private sector operations in Armenia. Much of this positive macroeconomic picture is a result of Armenia's progress in liberalization, privatization, and structural reform. Armenia enjoys the most open trade regime in the Commonwealth of Independent States (CIS), with almost complete price liberalization. Progress in privatization has been rapid; nearly all large state enterprises have been privatized, and the private sector share of GDP stands at more than 70%. This has been achieved notwithstanding trade limitations with neighboring countries. The economy is also heavily reliant on remittances from overseas workers (particularly from those in Russia), and large areas of former economic activity such as the Soviet-era chemical and heavy industries remain moribund.

43. Despite these challenges, overall, Armenia's private sector environment has improved very significantly. If all border issues are resolved in the future, trade and "land-bridge" opportunities could significantly boost economic performance. However, other challenges remain.

Business and Legal Environment: Armenia's business environment has improved over the last few years, e.g., the creation of a Business Council, registration of land titles, and improvement in customs administration. Independent regulatory oversight is being imposed on most sectors (although the results are not yet conclusive). The key now is to maintain the momentum by addressing the remaining weaknesses in the system, including lack of transparency in certain areas of the economy, requiring further strengthening of the regulatory and legal environment, sustained efforts to curtail corruption and improve tendering procedures, further streamlining of administrative procedures and tax administration, and strengthening of the judicial system and rule of law.

Privatization and Restructuring: Privatization of the economy has been rapid and is largely completed, with few large state-owned enterprises remaining in state hands. However, many of the initial privatizations suffered from lack of transparency and some involved the transfer of effective monopolies from state to private hands. The dominance of one firm in the telecommunications sector has limited the use of cell phone and internet users. Measures are being considered to open the market to additional service providers by 2009. Efforts must be made to encourage greater competition and liberalization in these key sectors. A focus on improving productivity, quality, governance, and bankruptcy procedures is particularly recommended.

Financial and Banking Sector Development: The Government and CBA have strengthened banking regulation, encouraged privatization and consolidation in the financial sector, created a deposit insurance scheme and a money laundering commission, and strengthened creditors' rights. The banking sector has performed relatively well in terms of capital and asset growth, asset quality, liquidity, and profitability. However, the sector is highly diffuse, with 21 banks, and is undercapitalized. Access to medium and long-term financing for the private sector is limited; SMEs are particularly constrained by the heavy collateral requirements, short loan tenures (maximum 2 years), and high interest rates (typically 18–19%). Banks remain disinclined to lend to enterprises, citing a lack of collateral, poor business plans, and lack of transparency. Borrowers' rights (over property) and creditors' rights (over collateral) need to be improved, and increased capitalization and consolidation in the banking sector should be encouraged.

Access to Capital: Access to capital for both public and private investment is limited. Domestic public debt markets are still in the early stages of development, and stock market trading volumes are low. Armenia is not internationally rated by credit agencies; neither the Government nor private companies have successfully issued bonds and/or equity on international capital markets. At the end of 2005, the Government of Armenia initiated sovereign rating process for the Government. In this framework, some reputable Armenian companies will also be rated. The majority of private financing comes from foreign direct investment (FDI).

Infrastructure: Most infrastructure, including power distribution and water systems, have been privatized and service provision significantly improved. Improvements in energy efficiency and tariff collection have helped mitigate quasi-fiscal deficits in the energy sector. Progress achieved in tariff adjustments (with the goal of eliminating subsidies) and improved collection needs to be sustained. Continuing efficiency improvements are anticipated, following further planned investments in the power sector. However, quality issues impact some of the post-privatized industries. For example, the telecommunications network, particularly internet and mobile services, would benefit from further liberalization and commercialization to improve quality, price, and access. The regulatory institutions need to be further strengthened and empowered.

2. Goals and Policies for Development

44. The summary above outlines some accomplishments and remaining challenges for private sector development in Armenia. The Government's roadmap toward economic growth and private sector development is expressed in two major economic policy documents: the Memorandum of Economic and Financial Policies (MEFP) and the PRSP.

45. The MEFP sets out the following short-term policy goals:

Monetary policy aimed at price stability, with an inflation target of 3%
Improved tax and customs administration
Improved control, reporting, and prioritization of government expenditures

- Reform of the principal state-owned enterprises in the infrastructure and energy sectors
- Reduction in administrative barriers to businesses, and in opportunities for corruption

46. The PRSP articulates economic and development priorities until 2015, as follows:[36]

- Promoting sustainable economic growth through macroeconomic stability and development of the private sector
- Enhancing human development and improving social safety nets
- Maintaining prudent fiscal policies and reforming the tax system
- Improving infrastructure
- Improving core public-sector functions

47. The crucial role of the private sector is woven into the fabric of both the short-term and long-term policy planning documents. From explicit mentions of the need to develop the private sector and reform state-owned enterprises, to the more implicit need for a thriving private sector to reprioritize government expenditure, to the identification as key goals for removing constraints and barriers to private sector development, the MEFP and PRSP repeatedly emphasize the focus being placed on private sector operations as the engine of Armenia's growth.

3. Other International Financial Institutions and Bilateral Donors

48. While many of the objectives outlined in the MEFP and PRSP are to be set and achieved primarily by the Government, international financial institutions and bilateral donors have many opportunities to help facilitate the development of a thriving private sector in Armenia. Many of ADB's peer institutions have a long history of directing financing toward the country.

- **IMF** supported macro stabilization and structural reforms in Armenia through four programs: (i) a systemic transformation facility; (ii) a 1-year stand-by arrangement; (iii) the 3-year Enhanced Structural Adjustment Facility; and (iv) the current Poverty Reduction and Growth Facility (PRGF), which totals SDR201.35 million. In mid-2005, IMF approved a new SDR23 million ($34.2 million) PRGF, which concentrates on developing private enterprise by strengthening the financial sector, and reducing reliance on external finance via improvements to the tax collection system.

- **World Bank** involvement in Armenia is primarily through its concessional lending arm, the International Development Association. As of January 2006, the World Bank Group had approved $1.3 billion of financing: 12 completed and 19 ongoing projects focus on energy, infrastructure rehabilitation, agriculture, social sector, business environment, and the financial sector, with an increasing recent focus on poverty alleviation. The Structural Adjustment Credit 5 (SAC) ($40 million) aims to develop the private sector, promote public administration, and continue reforms to the social sector.

[36] From EBRD Armenia strategy document.

IFC has completed three financings in Armenia since 2000, including investment in a hotel, investment in a leasing company, and a senior loan to Armeconombank for housing finance and SMEs. IFC has also provided TAs to improve the investment environment by supporting corporate governance, with a recent emphasis on banking governance, and anticipates an additional TA for housing finance in 2006.

EBRD support for the PRSP focuses primarily on private sector development and private sector participation in EBRD projects. Its main focus is the financial sector, and it plans to focus on expanding SME and microfinance funding. It has provided credit lines to four banks; has an equity stake in Armeconombank; and will continue to pursue credit lines, cofinancing, and direct equity investments. It seeks to expand its Trade Facilitation Programme (which currently comprises six or seven banks). EBRD will also consider equity investments in local banks, assistance for banking monitoring and evaluation activities and consolidation efforts, and mortgage financing. In the infrastructure and state-owned public utilities sectors, it will consider nonsovereign financing backed by suitable regulatory and institutional reform. EBRD also has a new focus on microlending, intended to help banks migrate from collateral-based lending to credit assessment, supported by a $300,000 program (in conjunction with $1.5 million of TA from USAID).

European Union (EU) has provided €330 million to Armenia from 1991 to 2002, about two thirds of which has been directed to food aid and food security. Another €86 million has been provided in loans, contributing to EU total assistance (inclusive of the contributions of individual member states) of over €500 million. The main elements of the EU's Technical Assistance for Commonwealth of Independent States (TACIS) Indicative Program 2004–2006 are programs to intermediate the social challenges of transition; and programs to support institutional, legal, and administrative reform.

USAID has provided significant amounts of funding to Armenia, totaling €1.3 billion from 1991 to 2002. Its Armenia Program 1999–2003 focused on six areas: private sector development, energy sector, democracy, social transition, water management, and special initiatives. The focus of USAID's activities has shifted over time from private sector development and energy sector support to social sector interventions.

German Development Assistance provided €18.19 million from 1993 to 2002, with a key focus on SMEs, through German Agency for Technical Cooperation (GTZ), KfW, and Deutsche Investitions– und Entwicklungsgesellschaft (DEG). GTZ, through the Pro-SME Initiative, has provided TA at all levels and has worked with UNDP on rural microfinance. KfW's focus is on microfinance, housing finance, and renewable energy (particularly hydropower and wind power); and it has also provided SME finance to the National Bank of Armenia. German development assistance has also committed to two guarantee programs, aiming to support refinancing of local commercial banks by German banks; and it is considering support for a deposit insurance program.

United Kingdom Department for International Development (DFID) started activities in Armenia in 1996, providing an average of £1.8 million of TA annually. From 2004 to 2006, DFID will provide £2.5 million annually to focus on public sector reform, reform of the budgetary process, and social investment. DFID focuses on addressing poverty issues through support to the PRSP process and the Public Sector Reform Program.

4. ADB's Private Sector Operations in Armenia

49. In line with its peers, ADB's private sector operations should seek to help Armenia achieve its strategic objectives and overall development goals. The Government has expressed a strong desire for ADB to support the private sector (and has already signed the Private Sector Framework Agreement). The Government has suggested ADB involvement in SME and housing finance, and assistance in building up a nascent insurance industry, as well as support for the still underdeveloped capital market and certain areas of infrastructure development.

50. ADB may offer a combination of equity, debt, and partial credit or political risk guarantees. As understood from discussions with government and private sector representatives, indicative projects or investments that ADB might consider in the near term include:

- Equity, debt, and guarantee financing for infrastructure projects as appropriate
- Equity investments in one or more local banks as well as loans in the form of Tier 2 capital or designated credit lines (with a particular focus on SMEs and mortgage finance)
- Inclusion of Armenian commercial banks in ADB's Trade Finance Facilitation Program
- Equity investments or provision of credit lines to leasing companies or other NBF institutions
- Credit enhancement for securitization of mortgages and leases or other capital market transactions
- Equity in investment funds

51. ADB is also looking for ways by which private capital can be mobilized for financing local infrastructure projects, particularly in the light of decentralization and devolution of infrastructure services to local governments. This may involve various approaches, including efforts to address issues of subsovereign creditworthiness, risk ratings, and credit enhancement. ADB is currently assessing the viability of establishing special funds and financial institutions to support this growing demand for subsovereign financing.

D. Transport and Communications

1. Overview

a. General

52. Armenia is a landlocked country with high transportation costs, which are exacerbated because of trade limitations with neighboring countries. Prior to independence in 1991, Armenia was part of a well-developed transport network and served as the transit point for the other Caucasus republics and the FSU. In comparison, the transport routes with Turkey and Iran were less developed. After independence, the shift to a market economy resulted in the collapse of

uncompetitive industries, a significant decline in the economy, and a sizeable change in traffic volumes and transport patterns.

53. Border issues with neighboring countries and the ongoing conflict between Armenia and Azerbaijan in and around the Nagorno Karabakh region affect the flow of freight and passengers. These have also led to the loss of Armenia's major international routes: (i) the main railway line from Armenia and the FSU countries passing through Azerbaijan, (ii) the main highway from Yerevan to Tbilisi and Russia passing through Azerbaijan, (iii) rail connection with Turkey linking Ghumri and Kars, and (iv) road connection to Turkey from Yerevan to Karakala. Currently, Armenia has rail and road connections only with Georgia on the Yerevan–Gyumri–Akhalkalak–Batumi route and the Yerevan–Vanadzor–Tbilisi–Poti routes to the Poti and Batumi ports on the Black Sea. The road connection in the south to the Iranian ports is much longer and costly, as the route passes through difficult mountainous terrain.[37]

54. The availability of cost-efficient transport for access to external markets is essential for Armenia. Development of the transport sector together with trade facilitation is needed to support the agriculture sector, which employs 45% of the labor force and generates 23% of the country's GDP.[38] A functioning transport sector will also provide support to the industrial sector, mining, and construction, which show high growth potential.

55. Since 1991, the Government has focused on establishing a legal framework for private sector development and building of an open market economy. Success was achieved in macroeconomic stability and privatization of small and medium-sized state-owned enterprises. From 2001, the Government accelerated its activities for strengthening the business environment in an effort to promote investments and exports. The focus on trade facilitation included simplifying customs clearance procedures, reducing bottlenecks in the business environment, and shortening procedures for business registration and business licensing. As a result, the freight forwarding business was established, providing an opportunity to the private sector, improving road transport, and bringing overall benefits to the economy.

b. Transport

56. The majority of freight and passenger movements in Armenia today are by road, in contrast to the pre-independence period when rail was the dominant mode of transport for commodities such as petroleum products, chemicals, agricultural products, mining products, and construction materials. In 2003, roads carried 66% of freight volume and over 98% of passenger traffic compared to railways which carried 34% of freight volume and less than 1% of passenger traffic. The contribution of air transport was negligible; it carried only 0.1% of freight volume and 0.6% of passenger traffic. However, in terms of freight turnover (ton-kilometers), rail has a modal share of 86%, which is still the major mode for international freight transport.[39]

57. The Ministry of Transport and Communications was established in 2000 when the Ministry of Transport and Ministry of Communications merged. It covers roads, road transport, railways, and telecommunications. The Ministry of Transport and Communications' functional responsibilities lie in the areas of policy, regulation, and planning.

[37] The distance from Yerevan to the ports in Black Sea is about 650 kilometers (km), and to Iranian ports is about 2,000 km.
[38] 2004 figures.
[39] Republic of Armenia. 2004. *Statistical Yearbook of Armenia.* Yerevan.

c. Roads

58. The Armenian road network is well developed and consists of about 7,633 kilometers (km) of roads. Of these, 65.3% are paved roads, 26% are gravel roads, and 8.7% are earthen roads. The network consists of 1,561 km of main highways connecting all regions of the country and providing international links, 1,826 km of secondary roads connecting the districts to the main highways, and 4,246 km of local roads providing access to the rural population.[40] Traffic volumes on the main highways range from about 1,000 to over 15,000 vehicles per day. Highways leading to Georgia in the north and Iran in the south are part of the main transport corridors, so they have higher traffic volumes. About 80% of national highways and secondary roads have been rehabilitated and are in good condition. However, the local road network needs improvement. It is estimated that 61% of the local road network is in poor condition, 29% in fair condition, and 10% in good condition. Only 16% of the network is passable during winter.[41]

59. The Armenian Roads Directorate (RD) is a noncommercial state organization under the Ministry of Transport and Communications (MOTC), which is responsible for management of the main and secondary road networks (or republican roads). Local roads are currently under the authority of marzes but the Government is in a process of transferring responsibility for local roads to MOTC. The RD has gone through major institutional reforms and its staff has been reduced from about 4,000 in 1995 to 82 in 2004, including 13 staff stationed in the 10 marzes. This was achieved through privatization of road construction and maintenance operations that were earlier carried out through state-owned enterprises and force account. The privatized construction units now work as contractors for RD, carrying out road improvement and maintenance. Based on functional responsibilities, RD is organized into (i) planning, including feasibility of all investment projects; (ii) procurement; (iii) bridge engineering; (iv) road maintenance monitoring; and (v) road safety. The road safety group is also responsible for traffic surveys, analysis, and safety audits.

60. After independence, the level of spending on the road network was significantly reduced and was insufficient to finance the necessary maintenance and rehabilitation works from the Government's budget. As a result, maintenance was initially financed through external resources.[42] Later, provision of additional resources was made through legislation requiring 10% of fuel tax to be used for routine maintenance. However, this was not put into practice and the Government continued to allocate funds annually from its budgets, supplemented by external resources. At present, funding for road maintenance is increasing rapidly and approaching the maintenance needs of the main highway and secondary road networks. The RD budget of $35 million for 2005 is twice the amount received in 2004. Of this, two thirds is for maintenance and one third for development. Rehabilitation is largely undertaken through external resources. The maintenance funds are almost equally divided between routine and periodic maintenance. As noted earlier, all maintenance is contracted out. RD has also initiated performance-based maintenance contracts on a few main highways and secondary roads on a pilot basis during 2005–2008. Based on a successful outcome, performance-based contracts will be expanded to a larger proportion of the network.

61. Progress has been made in road safety with the appointment of a National Road Safety Council in 2001 and development of a road safety program, including identification of accident black spots through an accident data system. NRSC's functioning is affected by the large

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[40] Information provided by the Armenian Roads Directorate (November 2005).
[41] Republic of Armenia. 2005. *Proposal for Millennium Challenge Account Assistance.* Yerevan.
[42] World Bank loans (see para 73 for details).

number of senior members, making it difficult to meet regularly and work effectively. Vehicle overloading is not an issue as permissible axle loads have been gradually increased to 11.5 tons, complying with international standards.

62. Based on the PRSP of August 2003, the Government has developed a rural roads improvement program involving 2,700 km of prioritized roads that provide access to all rural communities, connecting them to the existing republican road network. According to 2003 estimates, about $150 million is needed. The lengths of the proposed roads vary from 1 km to 59 km, and traffic ranges from 50 to 1,000 vehicles per day. One third of the roads are republican and two thirds are local roads. Some community roads are also part of the local roads. About 60% of the roads are asphalt or bitumen surfaced. Proposed improvements are based on traffic levels and include restoration, rehabilitation, and upgrading. However, improvement of culverts, bridges, retaining walls, and drainage will be prominent activities in the rehabilitation of all roads.

63. In Armenia, 70% of the total 3.2 million population lives in urban areas, including 1.4 million living in Yerevan. The subway, Yerevan Metro (built in 1981), and the trolley buses are operated by the Yerevan Municipality. However, they do not meet the urban transport needs. The subway rider ship is very low because of poor connections to other means of transport and the high cost the commuters have to pay to reach their final destination. In addition, both the subway and trolley buses function at a low cost recovery level and require large investment to improve service reliability. Accordingly, there has been significant progress in private sector involvement in the urban transport. The Government has removed most of the subsidies to public transport companies, and privatized the bus and taxi companies. The majority of urban passenger transport services are provided by buses and minivans, and the Municipality issues permits to private operators. Intra-city road transportation (both passenger and freight) is largely privatized and is developing at a rapid pace because of road improvements and the demand for better and reliable service.

d. Railways

64. Armenian Railways (AR) is a closed joint stock company established in 1991. Prior to independence, it was part of the Trans-Caucuses Railway network that included Azerbaijan and Georgia. The infrastructure—including bridges, locomotives, wagons, electrical system, and communication system—is old and in need of repairs and replacement. Some of the railway infrastructure was damaged during the conflict with Azerbaijan and by the 1998 earthquake. Due to mountainous terrain, the railway network includes a large number of bridges and several tunnels. Some large bridges are quite old and in need of major repairs. Because of border issues with neighboring countries, several railway lines are barely utilized. Of its 731.9 km electrified network, only about 370 km of track is fully operational, consisting of a railway line from Yerevan to the border with Georgia and a short passenger line to the outskirts of Yerevan. Just after independence, AR carried nearly 35 million tons of freight and 5 million passengers a year. By 1999, this was drastically reduced to 1.5 million tons of freight and 1.3 million passengers. By 2004, freight traffic picked up to 2.6 million tons, but passenger traffic continued to decline to 0.85 million passengers. AR freight transport projections for 2004–2008 estimate 6% growth, though there is a shift from rail to road transport due to the decline of rail-based industries, improved road network, and better service from trucking companies.

65. About a 179-kilometer section of the critical railway line between Yerevan and the Georgian border is in poor condition. About 72 km has been rehabilitated and AR is seeking

financing for the remaining 107 km. In addition, 41 bridges (including 8 large ones) are also in need of major rehabilitation.

66. AR was restructured in 1998 into a Railway Department under the Ministry of Transport and Communications and three closed joint stock companies comprising freight, rolling stock, and infrastructure. However, serious lack of coordination among the three closed joint stock companies and the high operational cost caused AR to revert to a more traditional state-owned, vertically integrated, and centrally managed organization in 2002–2003. The current organization has a closed joint stock company structure and now works under a government-appointed supervisory board representing the shareholders. Since 2001, progress has been made on eliminating cross-subsidization of freight and passenger tariffs, revising the tariff structure, discontinuing the use of non-profitable lines, privatization of noncore activities, and reducing staff numbers. As a result, AR's audit report for 2003 though qualified showed financial profit after taxes. Further planning and actions are needed to meet the maintenance needs of the prioritized railway assets, and create mechanisms for participation of the private sector. The World Bank is financing a major restructuring study that is due to be completed in 2006.

e. Cross-Border Trade and Transport Facilitation

67. Armenia has made significant progress in resolving cross-border issues and facilitating trade and transport through Georgia. The Armenian trade and transport facilitation committee[43] played an active role in (i) facilitating coordination between the Government, industry, private sector, and civil society; (ii) eliminating barriers to international and regional trade; (iii) bringing Armenian trade and transport procedures in line with international standards; and (iv) promoting harmonization of trade and transport procedures in the South Caucasus. The committee was established in 2002 and has been working with similar committees in neighboring countries. Armenia has signed all major international trade and transport protocols and conventions. Internally, issues related to custom procedures were streamlined and other reforms were made to facilitate private sector freight transporters.

f. Civil Aviation

68. Civil aviation is managed by the General Department of Civil Aviation, a state agency that functions directly under the Prime Minister. Armenia has three international airports at Yerevan (Zvartnots Airport), Erebuni, and Gyumri; and nine domestic airports. The main international airport is Yerevan airport, which currently serves 1.15 million passengers and passenger numbers are increasing by 7% per year.[44] On average, 23 international flights land at Yerevan airport every day. In view of the infrastructure rehabilitation and expansion needs and to control operational losses, the Government concluded a 30-year concession agreement in 2003 with a private sector firm experienced in operating airports in Argentina and Italy. The concession requires the firm to invest in rehabilitation and expansion of the terminal, and installation of modern technology and security equipment meeting international standards. The physical works should be completed by 2007. The firm is responsible for all airport operations except navigation, which is controlled by the General Department of Civil Aviation.

69. Prior to independence, the state carrier Armenian Airlines served almost 3 million passengers annually because of an artificial pricing policy. Air passenger volume has since dropped to 0.9 million in 2003. Armenian Airlines (Armavia) was sold to Russian-owned Siberian

[43] The committee was established with assistance from the World Bank.
[44] Information provided by the General Department of Civil Aviation.

Airlines in 2003. Subsequently, an Armenian company bought the majority of Armavia shares. As part of the agreement with the Government, Armavia serves as the national airline and enjoys a monopoly over domestic business. The freight volume is very low because the cost is high. Recently, Armavia made changes in destinations and tariffs to improve the freight business. The major air cargo includes agricultural products, fish, dry fruits, and brandy.

70. The World Bank's Poverty Reduction Support Credit includes policy reforms that affect the civil aviation subsector. The reforms include liberalization of the civil aviation policy and simplified procedures to allow improvement of air service. The Government agrees as long as it does not affect the existing commercial agreement with private carriers.

g. Telecommunications

71. The telecommunications sector is largely privatized. In 1998, the state-owned Armenian Telephone (Armentel) was sold to a private sector Armenian-Greek firm that was granted a license for fixed lines as well as mobile phones. In accordance with the agreement, Armantel was to spend about $200 million to expand the network and coverage, and improve the technology of fixed lines (from analog to digital). Only 50% of the work has been carried out to date, with significant delays, and no further progress is expected. The current fixed line coverage is 20 per 100 persons and 25 per 100 persons for mobile. However, the cost is high and the service is poor. A second operator, Vivacel, was introduced in 2005 for mobile telephones. From 2006, the Public Service Regulatory Commission will expand its role to include the telecommunications sector.[45]

2. Government Strategy

72. The Government's strategy relates to improving regional connections for transport and trade facilitation, improving rural roads to improve the livelihoods of the population working in the agriculture sector, facilitating private sector investment, and strengthening the telecommunications sector.

3. External Assistance

73. The World Bank has financed two projects for rehabilitation and maintenance of the main highways. The $36.9 million Highway Project was approved in September 1995 and was completed in December 2000. This project involved deferred maintenance (routine and periodic), rehabilitation of bridges and tunnels, road equipment, and institutional strengthening of RD. The $47 million Transport Project was approved in June 2000 and was completed by December 2004. It included rehabilitation of roads and bridges and road safety as well as a $15 million railway component involving upgrading of the railway line and operating infrastructure on the Yerevan to Georgian border section, and improving the financial and management of the Armenian Railways.

74. The Lincy Foundation[46] has provided $82 million grants for rehabilitation of 450 km main highways and urban roads in Yerevan. According to the Government, the foundation plans to provide another $40 million for rehabilitation of highways and secondary roads. MCC plans to provide $67 million grant funds for rehabilitation of 943 km rural roads.[47] This includes 85 road

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[45] Currently, the Public Service Regulatory Commission regulates electricity, gas, drinking water, and wholesale agriculture.

[46] Established by the Armenian diaspora in the United States.

[47] MCC is also financing rehabilitation of the irrigation infrastructure with about $100 million in grant funds.

sections, of which 321 km are republican roads and 622 km local roads. The Transport Corridor Europe Caucasus Asia (TRACECA) provided optical fiber cable to improve communications. The cable was installed on the Yerevan–Georgia railway link under the World Bank's Transport Project. TRACECA has also financed a number of transport sector studies. EBRD has provided a loan (€15 million) for expansion of a terminal at Yerevan airport.

4. Major Issues and Recommendations

75. Within the overall context of complementing the existing external assistance provided in the transport and telecommunications sectors and to meet the needs, ADB could focus on (i) rehabilitation and maintenance of the secondary and rural road networks, (ii) rehabilitation and improvement of the railway infrastructure as the dominant and economically viable mode of international freight transport, and (iii) capacity development of the related institutions. The Government has shown interest in ADB assistance in these areas.

E. Trade

1. Overview

76. Armenia is a small, landlocked, and mountainous country with few natural resources. The conflict between Armenia and Azerbaijan, which led to border issues with neighboring countries, has had a significant impact on Armenia's external trade. Armenia's north and south borders are also inhospitable, as the main road from Iran crosses a mountain range and is frequently impassable, and the main road to Georgia is poorly maintained.[48]

77. Despite Armenia's landlocked geographic position and physical bottlenecks to trade, exports have played an increasingly important role in promoting economic growth in the past few years. The main contributing factors include a well-educated low-cost labor force, a diaspora that promotes investment through remittances, and favorable but not interventionist trade policies. Armenia is also successfully developing niche markets in lightweight products with low transportation costs, such as processed diamonds and computer software.

2. Trade Policies

78. While there are significant political and physical barriers to trade, Armenia has maintained a liberal trade regime, and received the IMF's highest rating under its trade classification scheme. There are no export taxes or subsidies. Most imports are tariff free, and the remainder is subject to a 10% flat tariff. Customs processing fees for exports have been eliminated. However, customs valuation of imports has been largely based on discretionary practices and imposes undesirable costs on foreign investment and trade, so it is an important nontariff barrier. Armenia joined WTO in December 2003, and is also a member of the Black Sea Economic Cooperation, which was established in 1992 with the goal of extending economic cooperation by facilitating contacts between businesses and eliminating barriers to trade.[49]

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[48] Evgeny Polyakov. 2001. *Changing Trade Patterns after Conflict Resolution in South Caucasus*. Washington, D.C.: World Bank. Polyakov estimates that lifting the blockades and improving transportation networks could double Armenian exports and increase GDP by 30%.

[49] BSEC member states include Albania, Armenia, Azerbaijan, Bulgaria, Georgia, Greece, Moldova, Romania, Russia, Serbia and Montenegro, Turkey, and Ukraine. Armenia also has a number of bilateral trade agreements.

3. Trade Pattern

79. By 2004, exports of goods and services grew by 430% compared to 1995, with most of the growth occurring after 2000. As a share of GDP, exports grew from 19% of GDP in 1998 to 27.7% in 2004, and the trade deficit decreased from 54% to 13%. During the same period, the current account deficit narrowed from 21.3% of GDP to 4.56%.

80. The composition and direction of trade has changed markedly since the collapse of the industrial base built up under the FSU. Until the early 1990s, Armenia was heavily industrialized, and the bulk of exports were capital and intermediate goods—particularly machinery, rubber, chemicals, and electronics. These sectors have since contracted, and exports have shifted from the historical trading partners, especially from the CIS countries, to the rest of the world. The reorientation of Armenia's trade was further intensified by strong inflows of FDI from Belgium ($2.2 million) during 1998–1999 and from Israel since 2001, much of which was directed at the diamond-processing sector. In 2002 and 2003, diamond exports accounted for more than 50% of total export revenue, up from 35% in 2001. Prepared foodstuffs are the second largest export category. The metallurgy sector has also benefited from an increase in FDI in recent years, and in 2004 it provided nearly 20% of total export revenues. Export of information technology software is increasing because of Armenia's human capital base and low transport costs associated with such products. While the travel and tourism sectors have seen modest growth in recent years, development of these sectors is constrained by the poor transport infrastructure.

81. Imports of goods and services grew by 349% during 1995–2004. While the growth was strong in all categories, it was particularly strong in raw diamond products to service the growing processing industry, and in machinery and equipment to replace the fading domestic industry and underpin infrastructure investment. The composition and orientation of imports have also changed as a result of Armenia's deindustrialization and growth in the diamond processing industry, but the impact has been less profound than on exports. Russia remains an important supplier of imports, although its share has fallen from 19.8% in 1997–2001 to 13.3% in 2004. Armenia sources most of its fuel requirements from abroad, including natural gas from Turkmenistan via Russia, oil from Bulgaria and Romania, and nuclear fuel from Russia. Russia is also a leading importer of diamonds, along with Belgium and Israel.

82. Imports of services also grew rapidly in the last 5 years, with the largest increase in transport service (travel 63% and transport 54%). Telecommunications services growth was limited because monopoly service rights were granted to a single foreign investor for mobile telephone and internet services. While the monopoly rights have recently been rescinded, it remains to be seen whether the authorities can restructure the sector in a way that results in higher productivity and lower costs.

4. Conclusion

83. Despite physical and other barriers and few natural resources, the external sector has contributed to Armenia's economic growth in recent years. The success in the diamond-processing sector has played a key role in this process. However, further gains from this sector are likely to be limited. While Armenia has a long history of craftsmanship in diamonds and jewelry, the large increase in investment enjoyed by this sector is unprecedented. On the other hand, the Armenian diaspora continues to be influential in intermediating for investment and has promoted exports and facilitated the creation of joint ventures. Additional factors that facilitate trade include the relatively low level of wages and a highly skilled and disciplined labor force.

84. Substantial investment in transport infrastructure will be required to promote further growth in the travel and tourism sectors. Improving customs administration to reduce one of the most important barriers to trade should be a priority.

F. Energy

85. In 2004, GDP in Armenia was $3,555 million and real GDP growth was 10.1%, supported by strong growth in the industrial and service sectors, which are heavily dependent on energy supply. Per capita GDP has risen from $740 in 2002 to $1,513 in 2005. Continued GDP growth and associated increases in living standards are anticipated to significantly increase energy demand. Armenia is heavily dependent on imported energy and has limited access to international fuel markets because of its geographical location. It has no oil reserves or refineries, no natural gas reserves, and no coal mines. The only domestically produced primary energy is electricity from hydropower plants (HPP) and a single nuclear power plant (NPP) that began operation in 1976. There are no oil pipelines into Armenia, and refined oil products are imported by rail or truck, primarily from the Batumi refinery in Georgia. All natural gas is imported into Armenia through a gas pipeline from Russia via Georgia.

1. Power Generation

86. In 2004, Armenia's installed electricity generation capacity was 3,193 megawatts (MW), although the operational capacity was only 1,555 MW and peak electricity demand was 1,161 MW because of aging equipment. The electricity supply in Armenia is made up of about 26% from two gas-fired thermal power plants (TPPs), 34% from HPPs, and 40% from the NPP. The TPPs have an aggregate capacity of 1,750 MW but operate significantly below capacity. The HPPs have an installed capacity of 1,032 MW. The main HPPs are concentrated in cascades along the Hrazdan and Vorotan rivers, as well as a number of other smaller HPPs. Armenia has some exploitable wind resources, and a pilot 2.6 MW wind farm will commence generation in 2006. The World Bank is providing ongoing assistance in the development of renewable energy. Armenia has one NPP in Medzamor (2 units) with a nominal capacity of 815 MW. Nuclear fuel is imported from Russia. Following the 1988 earthquake, both units were shut down over safety concerns. In 1995, the second unit (385 MW) was brought back into operation to overcome a chronic safety power supply shortage. The EU and the United States have suggested closing the plant and have provided assistance to improve plant safety and study options for diversifying the energy base. Armenia proposes to close Medzamor NPP by 2016, after the construction of the 3rd atomic power generation unit.

87. Armenian electricity generation and demand has decreased considerably since the collapse of the Soviet Union. In 1989–1990, it generated about 15 terawatt hours (TWh), but only about 6.2 TWh in 2002. Prior to the collapse of the Soviet Union, it exported 20–25% of electricity generation. Armenia was previously part of the Trans-Caucasian Power Pool and has existing transmission lines to all neighboring countries. However, the transmission lines to Azerbaijan and Turkey are currently not in use. Armenia currently imports and exports electricity on a seasonal basis via existing high voltage transmission lines with Iran and Georgia. Its electricity demand is anticipated to expand considerably as the economy recovers. Armenia has inherited a comprehensive electricity distribution system, which largely remains intact, but requires rehabilitation and modernization. Ongoing rehabilitation of the transmission and distribution system is supported by KfW, Japan Bank for International Cooperation (JBIC), and World Bank. Armenia has been a pioneer in the Caucasus for energy sector reform. Household electricity and gas tariffs have been raised to cost recovery levels.

2. Urban Heating

88. Following the economic crisis, the district heating system collapsed and has largely not been rehabilitated. In 1989–1990, 35% of the urban residential area was centrally heated but it had fallen to less than 10% in 2003. The lack of economical residential heating options increases household expenditure and contributes to poverty levels. The widespread use of electricity for space heating is also highly energy inefficient. Due to the high cost of electricity and generally effective electricity tariff collection mechanisms, the poor revert to fuelwood and dung for space heating, with the associated environmental impacts, including deforestation and indoor health concerns. Natural gas distribution is rapidly expanding in urban areas and is anticipated to provide space heating for a significant proportion of the population. The World Bank is currently providing a $15 million loan to assist in district heating infrastructure upgrade and TA. The Government is currently implementing an Urban Heating Strategy, prepared in 2002, which includes gas-based heating supply and distributed heat.

3. Natural Gas

89. All natural gas is currently imported via pipeline from Russia, through Georgia. There are high pressure gas pipelines to Azerbaijan which have fallen into despair. Armenia maintains a strategic underground natural gas storage capacity for seasonal adjustment of natural gas flows and energy security purposes, but the storage facilities require rehabilitation. To diversify supply, a natural gas pipeline is being constructed to Iran. The gas supply distribution network has been partially privatized and is currently being extended to the majority of the population.

4. Institutional Structure

90. Armenia has privatized a significant proportion of the national energy sector infrastructure, resulting in a high percentage of foreign ownership, particularly from Russia. The Hrazdan TPP passed into ownership of the Government of the Russian Federation in 2003 in an equity swap to repay outstanding debts. The Ministry of Energy maintains ownership of the Yerevan TPP, which is proposed for expansion funded by a loan from JBIC. The HPPs along the Sevan–Hrazdan Cascade were sold to Russia’s state-controlled Unified Energy Systems in 2003 in an equity-debt swap. All small HPPs are privately owned. In 2003, Unified Energy Systems and Russian nuclear power holding company, Inter RAO-UES, assumed financial management of the Medzamor NPP to partially offset outstanding nuclear fuel payments but the Government retains ownership of the NPP.

91. Armenia fully privatized its electricity distribution network in 2002, and is now owned by a subsidiary of Unified Energy Systems. Electricity generating companies contract directly with the electricity distributor, subject to the regulatory oversight of the Public Services Regulatory Commission (the Commission). The Commission sets tariffs for electrical and thermal energy, natural gas, transmission and distribution in the energy sector. It also issues licenses for generation, import, export, transmission, and distribution of electricity, heat, and natural gas. The high-voltage power transmission system is controlled by the Ministry of Energy. The gas transmission and distribution utility (Armrosgazprom) is 45% owned by Russia's Gazprom, 10% by the Russian company Itera, and 45% by the Government. The Energy Law of the Republic of Armenia was passed in 1997 and revised in 2001. The Energy Saving and Renewable Energy Law was passed in 2004.

5. Regional Cooperation

92. Regional conflicts limit Armenia's options for diversifying its energy base and improving energy security. Restricted access to international oil and gas reserves limits diversification of suppliers. The proposed closure of the Medzamor NPP by 2016 will increase Armenia's reliance on high-cost imported energy. Armenia has ongoing regional cooperation in the energy sector with Russia, Georgia, and Iran. It would greatly benefit from enhanced regional cooperation.

6. Energy Sector Development Strategy

93. The Armenian economy is anticipated to grow substantially in coming decades, mostly driven by growth in the industrial and commercial sectors, with an associated rise in energy demand. Improvements in the energy sector are vital to provide reliable electricity to the developing manufacturing base and provide sustainable poverty alleviation options. The Government is currently attempting to improve energy security and diversify energy supply by constructing natural gas pipeline and high voltage transmission lines to Iran, full development of hydropower potential, and development of wind (and possibly geothermal) resources.

94. The Government's energy strategy[50] is detailed below:

2005–2010

Construct Iran–Armenia gas pipeline and third Iran–Armenia transmission line

Improve safety at the Medzamor NPP, prepare for decommissioning of Unit 2, and conduct feasibility for new third-generation unit

Extend natural gas distribution to the entire country

Commence heat supply rehabilitation

Construct new power generation, consisting of combined cycle gas-fired generation (648 MW), hydropower (210 MW), and wind power (100 MW); and assess geothermal potential.

Modernize transmission and distribution network and natural gas underground storage facilities.

2011–2016

Complete urban heat supply rehabilitation

Construct new capacity consisting of combined cycle gas-fired generation (608 MW), hydropower (125 MW), and wind power (200 MW).

Design two new nuclear power units

Expand natural gas underground storage facilities

Improve safety at the Medzamor NPP and prepare for decommissioning of Unit 2

Continue modernization of the transmission and distribution network

95. Armenia has benefited from a range of activity by bilateral and multilateral donor organizations in the energy sector since independence. In particular, USAID, World Bank, and German development cooperation through KfW have been active in the energy sector on a range of projects. JBIC provided loans for a gas-fired TPP and upgrade of the electricity transmission and distribution system. German development cooperation through KfW financed the rehabilitation of hydropower plants and substations. TACIS has focused on improving safety

[50] Republic of Armenia. 2005. *Energy Sector Development Strategies in the Context of Economic Development in Armenia*. Yerevan.

at the NPP and ultimately facilitating closure. These donor activities have provided extensive TA and capacity enhancement in a range of areas in the energy sector.

96. The required investment for the infrastructure proposed in the Government's energy sector development strategy is estimated at $3.9 billion by 2025, consisting of $1.9 billion of public sector projects, $0.4 billion of public sector supported projects, and $1.6 billion of private sector projects. This will include construction of 3,124 MW of additional capacity at a cost of $2.9 billion.

7. Potential Areas for ADB Involvement

97. The Government has indicated that development of the energy sector is a national priority. In the light of recent international developments in the energy sector, it has become imperative for import dependent countries such as Armenia to compare the relative costs of imported energy to domestic production costs and explore alternatives. Armenia imports about 1.33 billion cubic meters of gas annually from Russia. In 2006, the price is expected to increase from $53 per thousand cubic meter (MCM) to $110 per MCM. Eventually, it could reach the price at which Russian gas is sold in Europe (currently about $250 per MCM). At $110 per MCM, the fuel cost in the existing conventional power plants is about 3.4 cents per kilowatt-hour (kWh), which directly compares with the overall cost of generation of 3–4 cents per kWh from a new hydropower plant (more than 10 MW capacity). Armenia's limited access to other oil and gas markets necessitates expansion of domestic hydropower capacity for increased energy security. At the same time, it would be prudent to diversify sources of supply and improve access to cheaper external energy sources (e.g., gas and electricity) through closer integration with regional energy networks. Based on discussions with the Government and an initial review of the energy sector, the following are proposed as potential areas for ADB involvement in the Armenian energy sector.

Regional Cooperation. Energy security is a very serious concern for Armenia and strengthening regional interconnection is a high priority. The Government has requested that ADB assist with projects that enhance regional cooperation in the energy sector.

Renewable Energy. Due to the high cost of imported energy, and to further improve energy security, the Government intends to fully develop its domestic renewable energy potential. ADB could join other donors to finance the development of renewable energy projects such as hydropower, wind power, and potentially geothermal power, to accelerate capacity addition.

Energy Efficiency. There is significant potential for alleviation of the current rising primary energy demand through improved management of both supply and demand side energy efficiency.

Natural Gas. The Government has requested that ADB provide assistance for natural gas projects which would include storage, distribution (particularly is rural areas), and regional cooperation activities.

G. Poverty and Millennium Development Goals

1. Background

98. Armenia declared independence from the Soviet Union on 21 September 1991. Prior to this, Armenia had received transfers and subsidies on imported raw materials and energy, and

exported its industrial products to the vast market of sister republics of the FSU. Its electronics, heavy machinery, chemicals exports, and human capital were in high demand. The 1988 earthquake had an acute impact on the economy. It destroyed nearly 30% of the industrial infrastructure, killed 25,000 people, and left another 400,000 without shelter and in need of social protection. In the same year, the conflict in and around the Nagorno Karabakh region added 360,000 refugees and 70,000 internally displaced persons to those in need of social protection.

99. During 1988–1994, conflict between Armenia and Azerbaijan in and around the Nagorno Karabakh region, the energy crisis, and border issues with neighboring countries further impacted on the Armenian economic situation. After 1991, land was privatized in Armenia and small-scale agriculture replaced the large agro-industrial complexes of the Soviet era. Small plots could not reach the productivity levels of large farms, and in the absence of adequate irrigation, subsistence farmers suffered even more. In addition, nearly 1,100 industrial complexes were closed in the post-Soviet era, leading to massive unemployment for workers in the plants and ancillary businesses that thrived in industrial towns. In 1994, Armenia adopted an economic liberalization program and has maintained robust growth for the last decade. In the same year, a ceasefire was put in place in the conflict with Azerbaijan. In 1995, the Constitution was approved by nationwide referendum.

100. Armenia signed the Millennium Declaration in 2000, developed a PRSP, and adopted a national poverty reduction strategy in 2003. Resources were allocated for effective implementation of the strategy and accompanying action plans through the MTEF. The PRSP Secretariat of the Ministry of Finance and Economy has been coordinating the Government's poverty reduction initiatives. The implementation status of the PRSP was reviewed in late 2004 and a more thorough second review is currently under way.

2. Poverty Reduction

101. According to 1988 data, only 20% of the population received salaries lower than the poverty threshold.[51] After 1991, the number of socially vulnerable people increased exponentially. During 1989–1990, the Savings Bank network of the Soviet Union provided compensation to earthquake survivors but the accounts were frozen after the dissolution of the Soviet Union in 1991. Coupled with the economic crisis of 1992, this led to an increase in the number of poor. Immediately after independence, the real income of the population decreased by nearly 10 times and more than 20% of the population left the country in search of employment.[52] More than half the population had slipped under the poverty line by the time the first household living standards survey was conducted in 1996.

102. By 1996, nearly 55% of the population was identified as poor and this continued to increase until 1999. The late 1990s witnessed rigorous efforts by the Government and its development partners to reduce poverty. These efforts gained impetus and sharper focus when Armenia started formulating its poverty reduction strategy in 2000. In March 2001, an Interim Poverty Reduction Strategy was adopted. The PRSP was developed through widespread consultation with civil society and was adopted in August 2003. The PRSP asserted that macroeconomic stability, private sector development, and improved governance are critical for continued growth and poverty reduction, noting that employment creation lagged behind output growth partly because of barriers to market entry and low labor productivity levels. To reverse

[51] Republic of Armenia. 2003. *Poverty Reduction Strategy Paper*. Yerevan.
[52] United Nations. 2001. *Armenia Millennium Development Goals: Status of Implementation*. New York.

the trend, improving governance and facilitating growth of SMEs were proposed. Higher budgetary allocations for education, health, and social protection programs (e.g., for poverty family benefits program) were highlighted as immediate poverty reduction measures. A Sustainable Economic Development Policy for Armenia was also prepared to augment the PRSP, but it was later decided that economic policies should be handled separately and the policy paper is being revised accordingly. Targets identified in the PRSP were duly integrated into the MTEF starting with 2004, and development partners were urged to coordinate their efforts toward realization of the PRSP targets.

Table A2.3: Poverty in Armenia
(as percent of total population)

Poverty Indicators	1999		2004	
Incidence of Poverty	55.1		39.0	
Extreme Poverty	22.9		7.2	
Poverty Levels by *Marzes (Rank)*[a]				
Yerevan	58.4	(5)	29.2	(10)
Aragatson	60.5	(4)	35.4	(6)
Ararat	52.3	(7)	32.7	(7)
Armavir	41.7	(9)	36.0	(5)
Gegharkunik	49.9	(8)	41.9	(2)
Lori	62.6	(2)	31.3	(8)
Kotayk	61.7	(3)	39.3	(3)
Shirak	75.8	(1)	48.8	(1)
Syunik	53.1	(6)	36.5	(4)
Tavush	29.3	(11)	30.5	(9)
Vayots Dzor	34.7	(10)	28.9	(11)
Urban Poverty	58.3		38.0	
Urban Extreme Poverty	23.2		8.6	
Rural Poverty	50.8		40.6	
Rural Extreme Poverty	22.6		5.0	
Poverty Gap	19.0		9.9	
Poverty Severity	9.0		3.5	
Inequality (Gini coefficient by consumption)	0.30		0.26	

[a] *Marzes* = regions. These figures are not representative except for 2004.
Source: National Statistical Service.

103. Aided by the adopted poverty reduction framework, the number of poor receded to 39% by 2004 (Table A2.3). During 1999–2004, the poverty gap declined from 19% to 9.9% and the severity of poverty receded from 9% to 3.5%. After the 1991 privatization of land, productivity in the agricultural sector had dropped visibly in the smaller plots of land, most of which were not covered by the irrigation network. Coupled with an aging population in rural areas and adverse terms of trade, rural poverty persisted. Targeted programs have been introduced to mitigate adverse impacts of poverty. Currently, the agricultural sector employs nearly half the labor force and contributes about one fifth of GDP. Rural poverty levels have improved and are closer to

national levels, thanks to the rapid growth in agriculture over the last 2 years and favorable food prices. Urban poverty receded much faster than rural poverty, given additional employment opportunities emerging in urban areas. The decline was particularly pronounced in Yerevan over 1996–2004. If semi-urban areas (i.e., urban areas other than Yerevan) are considered separately, the highest incidence of poverty and extreme poverty are witnessed in semi-urban areas, followed by rural areas and Yerevan.

104. For socially vulnerable groups, the incidence of poverty is highest among large families (with more than three children). It is lowest among households of single pensioners, who receive both social transfers and private remittances from family members working abroad. The poverty level among women-headed households is close to the national poverty level.

105. The population living under the national poverty line[53] has declined visibly over the last decade but income inequality is still pronounced. The Gini coefficient is still fairly high, barely declining from 0.30 in 1999 to 0.26 in 2004. Consumption expenditures of the richest 10% of the population was 9.5 times of the poorest decile in 2004, while their monetary income was 20.8 times that of the poorest 10% of the population.

106. Double digit economic growth rates for the last 5 years are lauded as the main reason for overall poverty reduction, while public and private transfers are credited with reining in extreme poverty from 22.9% to 7.2% during 1999–2004. One of the striking characteristics of poverty in Armenia is that a portion of the population hovers around the poverty line; it is possible for the same family to be above or below the poverty line depending on the public and private transfers it receives in a particular year. Private transfers are mainly remittances from family members working within Armenia or abroad, particularly in Russia and the United States. There is a clear demarcation among the poor and nonpoor households, in that poor households have very limited access to private transfers. On average, private transfers accounted for 10.8% of family income in 2004, according to the National Statistical Service (NSS). However, most private transfers are not coursed through the formal banking sector. Current estimates for annual remittances range from 10% to 25% of GDP.

107. Public transfers under the social protection program include (i) old-age and disability pensions, sickness, maternity, and unemployment benefits, funded through mandatory social insurance or payroll contributions administered by the State Social Insurance Fund; (ii) noncontributory budget-financed social assistance benefits and various one-time payments (e.g., for newborns, and communities located in mountainous regions and along the borders); and (iii) social care services for socially vulnerable groups such as veterans, disabled, and children from destitute and dysfunctional families.[54] In 2002, 40% of the population received one or more benefits. Pensions covered 543,710 people in 2003, amounting to 3.0% of GDP. Social transfers accounted for 11.6% of household income in 2004, up from 8.4% in 2003.

108. The Poverty Family Benefits Program, in particular, stands out among the Government's social assistance programs. In 2002, 126,966; in 2003, 126,334; and in 2004, 120,248 eligible families received an average of AMD14,000 a month (higher than the current minimum wage). The budgetary provision for the program has been increased from AMD20 billion to AMD24 billion (about $44 million to $53 million as of 30 March 2006) in the 2006 budget. Since its inception in 1999, the eligibility criteria and scoring system (by which recipients are identified)

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[53] In 2004, the poverty line for Armenia was AMD19,373 (about $43) and the hunger line was AMD12,467 (about $28).

[54] It is estimated that socially vulnerable groups (e.g. refugees, internally displaced persons, the disabled, and aging) exceed 10% of the total population at present.

have been refined to improve targeting of most vulnerable groups as direct beneficiaries, and for improved impact monitoring with USAID assistance.[55] NSS estimates that, without these social transfers, the level of poverty would have been 49.9% rather than 39.0% in Armenia. In other words, about 300,000 people are able to stay above the poverty line with the social assistance they receive from the Government.

109. Targeted social transfers and social services are managed by the Ministry of Labor and Social Affairs (MLSA).[56] More specifically, MLSA's Social Assistance Department manages the Poverty Family Benefits Program and coordinates the activities of 55 Agencies of Social Service Centers in the marzes, which carry out various social services at the community level. MLSA's Employment Service Agency coordinates unemployment assistance, vocational training and retraining, and rehabilitation programs for the disabled and job placement services through its 51 territorial Employment Service Centers.[57]

110. The shocks of the 1980s and 1990s had led to massive unemployment and emigration to other countries. Unemployment rates have not declined visibly despite robust economic growth. It should be noted that there are conflicting statistics on unemployment in Armenia. According to the Employment Service Centers, 9% of the labor force is officially registered as unemployed in 2004[58] whereas the unemployment rate derived from the household surveys is 31.6% as of 2004.[59]

111. High unemployment figures are attributed to (i) previous hidden unemployment in a number of sectors, especially industry (production has increased as businesses began to operate more efficiently but growth has not necessarily absorbed labor); (ii) underreporting of employment by both employees (to evade taxes) and employers (to evade formal benefit payments); (iii) failure to account for workers that go abroad for seasonal employment; and (iv) rigidities in the labor market. There is a mismatch between the available skills mix of the labor force and the type of skills and experience needed in Armenia's fast-evolving production cycle and market structure. It has not been possible to retrain the majority of the labor force because of their unwillingness to be retrained, difficulties in retraining them for a different job, or lack of adequate retraining opportunities. Business development services and retraining programs are provided by MLSA and the Ministry of Trade and Economic Development as well as German development assistance through KfW, USAID, and World Bank. However, these tend to be fairly limited in scope or specialized in certain geographical areas. Current need far exceeds the provision of services.

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[55] The Ministry of Labor and Social Affairs found that there is underreporting of family income and misrepresentation of family composition among the beneficiaries. To improve benefit targeting, a household sample survey and a community survey will be conducted in 2006. The household survey will gather information on social services received and will be the first qualitative survey of its kind in Armenia.

[56] Only a limited number of responsibilities and revenue sources are under the jurisdiction of local self-governing bodies. Most of the social services, including health and education, are provided by the state government. Lack of capacity and resources limit the effectiveness of (particularly small) local self-governing bodies in the 930 communities of Armenia. Central Government aims to reduce fragmentation at the local government level through voluntary consolidation or by forging intercommunity unions, thereby developing synergies and improving service provision.

[57] MLSA and the Employment Service Agency are guided in their activities by the Law on Employment and Social Protection in Case of Unemployment, which was adopted on 24 October 2005.

[58] The unemployment rate of 9% for 2004 is based on the "Armenian labor law" definition of "unemployed" as a person (i) aged 16–63, (ii) who has no job, (iii) receives no pensions or allowances, (iv) is registered with an Employment Service Center, and (v) has at least 1 year of work experience.

[59] According to the International Labor Organization's definition, a person is "unemployed" if they have been unemployed for the last week, has been seeking employment, and is available for work. According to this definition, the unemployment rate was 31.6% in 2004.

112. Potent means for combating poverty in rural and urban areas include (i) improved governance; (ii) rural infrastructure (e.g., rural roads, wider irrigation network); (iii) vocational training; (iv) business development services (e.g., start-ups, business management, accounting, and marketing); and (v) SME financing. A number of bilateral and multilateral development agencies have been active in supporting national poverty reduction efforts in Armenia. Areas of assistance include (i) microfinance and SME promotion (German development assistance through KfW, German Agency for Technical Cooperation, EBRD, USAID, and World Bank); (ii) integrated rural development (DFID in Tavush and Gegharkunik), (iii) governance and administrative reform at central and local levels (USAID and UNDP); and (iv) improving social protection services and capacity (USAID and UNDP). The World Bank also works with NSS on developing databanks and utilizing methodologies for the Armenia. Other agencies and areas of assistance are include the Swedish International Development Cooperation Agency (forestry); United States Department of Agriculture (Center for Agricultural and Rural Development); EU (food security, governance); International Fund for Agricultural Development (irrigation policy); and UN agencies (community development, crop development, crisis management, food for work and food for training programs). MCC is expected to provide development assistance for rural roads and irrigation in 2006.

3. Status of Millennium Development Goals

113. The PRSP of 2003 incorporated the Millennium Development Goals (MDGs) in its framework and identified monitorable indicators for each goal to address both income and non-income dimensions of poverty. The status of MDG achievement is in Appendix 1, Table A1.3.

114. Robust economic growth and public and private transfers have played a crucial role in decreasing income poverty in Armenia. However, 7.2% of the population is still under the hunger line and Armenia is a net food importer. Moreover, income and regional disparities persist. Indicators for education are encouraging, while indicators for gender equality, health, and environmental sustainability require closer attention. While Armenia was an early achiever in eliminating gender disparities in primary, secondary, and even tertiary enrollment, primary education completion rates have been regressing.[60] Statistics for education are far from complete. Possible reasons for this decline are (i) an increasing number of poor in Armenia throughout the 1990s, leading to a decreasing number of children attending school and completing their education (especially from the poor families); (ii) an increasing number of school-leavers to work and aid the family (some primary school students were reported to be in their early teens); (iii) decreasing budgetary allocation for education, and the resultant decrease in well-maintained schools, equipment, and qualified teachers. Some argue that this also led to dropping school attendance and completion rates; (iv) population movements caused by conflicts; and (v) migration of families or families sending their children to live with relatives abroad. The economic crisis of 1990–1994 had a detrimental impact on education in Armenia. The quality of education deteriorated because of lack of funding for teachers and properly equipped schools. Public expenditure on education has been increasing steadily since 1997 and reached 15.6% of total expenditures in 2005. There is still scope for additional vocational training and re-skilling programs, as these may improve the marketability of current job applicants. Further attention and resources are accorded to secondary and vocational education in the 2006–2008 MTEF. An optimization program is under way in the education and health sectors to improve overall efficiency and service delivery. Schools, hospitals, and polyclinics are being consolidated and staff are retrained in some cases.

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[60] ADB-UNDP-United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP). 2005. *A Future Within Reach: Reshaping Institutions in a Region of Disparities to Meet the MDGs in Asia and the Pacific*.

115. Budgetary allocation for health has increased both in absolute terms and as a ratio of total expenditures, from 7% in 1996 to 8% in 2005. The availability and quality of service varies widely across the country; Yerevan receives an inordinately high share of health services. Armenia was an early achiever in decreasing child mortality but maternal health indicators show a regressing trend. Maternal mortality rates are especially high in rural areas because health care provision outside Yerevan is inadequate. Similarly, data for communicable disease indicators are either incomplete (as for HIV/AIDS)[61] or sobering (as for tuberculosis).

116. Women's participation in the political decision-making process has also decreased. In 2003, only 17 out of the 926 communities were headed by women. As of end 2005, none of the 47 cities has a woman mayor. There are only 7 women among the 131 parliamentarians and no women ministers.[62] Men and women are equal under the law and there are no provisions for affirmative action to increase the number of women in government posts. However, the "2004–2010 Republic of Armenia National Action Plan on Improving the Status of Women and Enhancing Their Role in Society" was accepted with Decree 645 on 8 April 2004. The action plan provides a roadmap for ensuring equal rights and opportunities for women, improving their social and economic conditions and access to education and health services, and eliminating violence against women.

117. The economic crisis of the early 1990s also had an impact on the environment. The energy crisis caused forests to be depleted for firewood, and Lake Sevan's water elevation dropped as it was used for energy generation. Programs to restore the forests and improve water elevation and quality are under way. Lake Sevan's water elevation has already improved, as a result of programs to ration water discharge, and diversion of Vorotan River. However, carbon dioxide emissions are still high, reaching as much as four times the acceptable levels in Yerevan. Access to potable water is limited in rural areas. Currently, 525 villages and small towns (about 65,000 people) are not covered by the water network, and only 60% of the population has access to improved sanitation.

118. In December 2005, the PRSP Secretariat and UNDP facilitated the development of "nationalized MDGs" for Armenia.[63] Both the numeric value of each target and the target itself were revised to reflect specific circumstances and goals for poverty reduction in Armenia. The original list and nationalized MDGs are in Table A2.4. Under the nationalized MDGs, the target for Goal 1 is fairly modest (i.e., decreasing, rather than halving, the poverty level from 1990 to 2015), while targets for education and gender equality surpass those of 2003. Lake Sevan is incorporated into Goal 7, and Goal 8 aims to increase and make development assistance more effective.

4. Potential Areas for ADB Involvement

119. The incidence and severity of poverty have been declining through targeted social protection programs and economic growth in Armenia. However, it is still high enough to demand concern and attention.

120. Unemployment must be addressed sooner rather than later. There is a need for concerted efforts among relevant government agencies and the donor community to develop

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[61] According to the National AIDS Center of Armenia, there are 332 HIV-positive people in Armenia. Independent experts estimate this number to be closer to 3,000.

[62] Republic of Armenia. 2003. *Poverty Reduction Strategy Paper*. Yerevan; UNDP. 2005. *Millennium Development Goals: Nationalization and Progress*. New York.

[63] Ibid.

and deliver business development services to micro, SMEs in Armenia. This may assist in (i) retraining and re-skilling the labor force; (ii) improving the competitiveness of the unemployed and facilitating their reentry into the labor market; and (iii) combating poverty by increasing the number of gainfully employed Armenians.

121. In addition, given that a number of core development decisions are based on Armenia's socioeconomic indicators, a sound, complete, current database is required. NSS needs urgent assistance in (i) conducting household, agricultural, and employment surveys that are internally consistent, comparable over time, and fully representative (with regard to geographical location, demographic characteristics, income, etc.); (ii) developing and maintaining a community-level administrative registry; (iii) effectively utilizing data processing methodologies; and (iv) categorizing, tabulating, and publishing data in formats that address clients' needs.

Table A2.4: Nationalized MDGs

MILLENNIUM DECLARATION		NATIONAL MDG FRAMEWORK	
Goal 1. Eradicate Extreme Poverty and Hunger			
Target 1. Halve, from 1990 to 2015, the proportion of people whose income is less than		**Target 1. By 2015, reduce the poverty level lower than the 1990 level**	
1.a	Proportion of population below $1 (PPP adjusted) per day	1	Proportion of population below $4 (PPP adjusted) per day
1.b	Proportion of population below national poverty line	2	GDP per capita compared to the EU average (PPP adjusted)
2	Poverty gap ratio	3	Family allowance budget expenditure to poverty gap ratio
3	Share of poorest quintile in national consumption	4	Income of the poorest quintile to the income of the richest quintile
		5	Ratio of poverty level outside Yerevan to poverty level in Yerevan
Target 2. Halve, from 1990 to 2015, the proportion of people who suffer from hunger		**Target 2. Halve, from 1990 to 2015, the proportion of people who suffer from hunger**	
4	Prevalence of underweight children under 5 years of age	6	Prevalence of underweight children under 5 years of age
5	Proportion of population below minimum level of dietary energy consumption	7	Proportion of population below minimum level of dietary energy consumption
Goal 2. Achieve Universal Basic Education			
Target 3. Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling		**Target 3. Ensure that, by 2015, every child will be able to complete a full course of high quality basic schooling**	
6	Net enrollment ratio in primary education	8	Net enrollment ratio in basic education
7	Proportion of pupils starting grade 1 who reach grade 5	9	Annual state budget expenditure for education to GDP
8	Literacy rate of 15–24 year-olds	10	Ratio of pupils and students possessing knowledge corresponding to the criteria set by the national and international education quality assessment system
		11.a	Enrollment ratio of the poor population (relevant age group) in vocational education
		11.b	Enrollment ratio of the poor population (relevant age group) in higher education

MILLENNIUM DECLARATION		NATIONAL MDG FRAMEWORK	
Goal 3. Promote Gender Equality and Empower Women			
Target 4. Eliminate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later then 2015		**Target 4. Increase, by 2015, women's participation in political decision making**	
9	Ratio of boys to girls in primary, secondary, and tertiary education	12	Proportion of women members of the National Assembly, ministers, governors, and deputy ministers
10	Ratio of literate women to men, 15–24 years old	13	Proportion of women community heads
11	Share of women in wage employment in the nonagricultural sectors	14	Proportion of women in registered unemployed
12	Proportion of seats held by women in national parliament		
Goal 4. Reduce Child Mortality			
Target 5. Reduce by two thirds, from 1990 to 2015, the under-five mortality rate		**Target 5. Reduce by two thirds, from 1990 to 2015, the under-five mortality rate**	
13	Under-five mortality rate per 1,000 live births	15	Under-five mortality rate per 1,000 live births
14	Infant mortality rate per 1,000 live births	16	Infant mortality rate per 1,000 live births
15	Proportion of 1 year-old children immunized against measles	17	Proportion of 1 year-old children immunized against measles and other major diseases
Goal 5. Improve Maternal Health			
Target 6. Reduce by three quarters, from 1990 to 2015, the maternal mortality ratio		**Target 6. Reduce by three quarters, from 1990 to 2015, the maternal mortality ratio**	
16	Maternal mortality ratio per 100,000 live births	18	Maternal mortality ratio per 100,000 live births
17	Proportion of births attended by skilled healthcare personnel	19	Proportion of births attended by skilled healthcare personnel
Goal 6. Combat HIV/AIDS, Malaria and other Diseases			
Target 7. Have halted by 2015 and begun to reverse the spread of HIV/AIDS		**Target 7. Have halted by 2015 and begun to reverse the spread of HIV/AIDS**	
18	HIV prevalence among pregnant women aged 15–24 years	20	HIV prevalence among pregnant women
19	Condom use rate of the contraceptive prevalence rate	21.a	Percentage of population aged 15–24 years reporting the use of condom during sexual intercourse with a non-regular sex partner
19	Condom use during last high-risk sex	21.b	Percentage of population aged 15–24 years with comprehensive correct knowledge of HIV/AIDS
19	Percentage of population aged 15–24 years with comprehensive knowledge of HIV/AIDS		
19	Contraceptive prevalence rate		
20	Ratio of school attendance of orphans to school attendance of non-orphans aged 10–14 years		
Target 8. Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases		**Target 8. Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases**	
21	Prevalence of death rates associated with malaria	22	Malaria prevalence (local cases)
22	Proportion of population in malaria-risk areas using effective malaria prevention and treatment measures	23	TB incidence per 100,000 population
23	Prevalence of death rates associated with TB	24	Proportion of TB cases detected and cured under DOTS (internationally recommended TB control strategy)

MILLENNIUM DECLARATION		NATIONAL MDG FRAMEWORK	
24	Proportion of TB cases detected and cured under directly observed treatment strategy (DOTS) (internationally recommended TB control strategy)		
Goal 7. Ensure Environmental Sustainability			
Target 9. Integrate the principles of sustainable development into country policies and programs and reverse the loss of environment resources		**Target 9. Integrate the principles of sustainable development into country policies and programs and reverse the loss of environment resources**	
25	Proportion of land area covered by forests	25	Proportion of land area covered by forests
26	Ratio of area protected to maintain biological diversity to surface area	26	Ratio of areas protected to maintain biological diversity to surface area
27	Energy use (kg oil equivalent) per $1,000 GDP (PPP)	27.a	Energy used (kg oil equivalent) per $1,000 GDP (PPP)
28.a	Carbon dioxide emissions per capita	27.b	Carbon dioxide emissions per capita
28.b	Consumption of ozone depleting CFCs (ODP tons)	27.c	Consumption of ozone depleting CFCs (ODP tons)
29	Proportion of population using solid fuels	28	Proportion of population using solid fuels
		29	Elevation of Lake Sevan above sea level (meters)
		30.a	Average translucence of Lake Sevan
		30.b	Average oxygen content in Lake Sevan
Target 10, Halve, by 2015, the proportion of people without sustainable access to safe drinking water and sanitation		**Target 10. Increase access to safe drinking water in rural areas**	
30	Proportion of population with sustainable access to an improved water source, urban and rural	31	Proportion of population without access to safe drinking water in rural areas
31	Proportion of population with access to improved sanitation, urban and rural	32	Number of population using transported water compared to the total number of water users
Target 11. By 2020, to have achieved a significant improvement in the lives of at least 100 million slum dwellers		**Target 11. Improved housing conditions by 2015**	
32	Proportion of households with access to secure tenure	33	Ratio of slum population (households living in makeshift/temporary shelter) per 1,000 households
		34	Proportion of population with access to improved sanitation, urban and rural
		35	Proportion of communities with more than 300 households with access to reliable natural gas supply
Goal 8. Develop a Global Partnership for Development			
Targets 12. Develop further an open, rule-based, predictable, nondiscriminatory trading and financial system. Includes a commitment to good governance, development, and poverty reduction—both national and international.		**Target 12. Ensure such level of governance, accountability, and human rights protection that contributes to increased ODA and its efficient utilization**	
Target 13. Address the special needs of the least developed countries. Includes: tariff and quota -free access for least developed countries' exports; enhanced program of debt relief for HIPC and cancellation of official debt; more generous ODA for countries committed to poverty reduction.		36	Freedom of press index
		37	Regulatory quality index
		38	Government effectiveness index
		39	Rule of law index
		40	Corruption perception index

MILLENNIUM DECLARATION		NATIONAL MDG FRAMEWORK	
Target 14. Address the special needs of land locked developing countries and small island developing states.		41	Ratio of tax revenues in GDP
Target 15. Deal comprehensively with the debt problems of developing countries through national and international measures to make debt sustainable in the long term			
Target 16. In cooperation with developing countries, develop and implement strategies for decent and productive work for youth			
Target 17. In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries			
Target 18. In cooperation with the private sector, make available the benefits of new technologies, especially information and communications		**Target 13. In cooperation with the private sector, make available by 2010, the benefits of new technologies, especially information and communications**	
47	Telephone lines and cellular subscribers per 100 population	42	Telephone lines and cellular subscribers per 100 population
48.a	Personal computers in use per 100 population	43.a	Personal computers in use per 100 population
48.b	Internet users per 100 population	43.b	Internet users per 100 population

Source: United Nations. 2005. *Millennium Development Goals: Nationalization and Progress*. New York.

H. Social Development

1. Introduction

122. The social sectors in Armenia suffered setbacks when the country became independent in 1991 not only because of the structural breakdown of the Soviet social support system and the economic transition but also because of problems caused by the devastation of the 1988 Speetak earthquake, the conflict in and around Nagorno Karabakh region, and the flow of refugees from Azerbaijan. Border issues with neighboring countries further exacerbated the situation. These negative developments led to “widespread impoverishment of the population, income inequality, and polarization of society to an appalling degree”.[64] Although economic growth resumed in the mid-1990s, the resultant gains have not carried over to the social sectors. To address prevailing social challenges, the Government elaborated the PRSP in 2003, which is now being implemented with active assistance from the international donor community.

123. Amid the difficult social scenario of the last 15 years, the Government has shown a strong track record on economic management and reform, and has made good use of the high levels of official donor support it has received.[65] The Government’s high priority for the social sectors (education, health, and social protection) may be seen from its budget commitment. The actual 2004 budget for total social expenditures was 5.4% of GDP and 30.7% of total government expenditure, which placed Armenia fourth highest level in terms of budget allocation for the social sectors among 19 CIS countries in transition. About 43% of the social sector expenditures in 2004 went to education, 33% to social security, and 24% to social

[64] Republic of Armenia. 2003. *Poverty Reduction Strategy Paper*. Yerevan.

[65] World Bank. 2004. *Memorandum of the President of the International Development Association to the Executive Directors on a Country Assistance Strategy for Armenia.* Washington, D.C.

insurance and health. Based on the 2006–2008 MTEF, there is a steady increase in budget allocation for the social sectors from 6.4% of GDP in 2005 to 7.4% by 2008 and from 34.2% of total government expenditures in 2005 to 37.8% by 2008.

2. Education

a. Background and Recent Developments

124. The reduction of education spending during the transition period led to deterioration in the quality of education services. During the decade after independence, teaching and learning content and methods did not change much from Soviet times and most subject matter was irrelevant and inappropriate. In addition, worsening of school infrastructure because of insufficient budget allocations for repair and maintenance and lack of learning materials led to a poor learning environment. With regard to access, Armenia has high levels of enrolment at all levels compared with other low-income countries. In 2001, net enrolment for basic education was 90.8%: 86.8% for secondary schools (but only 52% for the poorest quintile) and 21.4% for higher education. In the 2002–2003 school year, there were about 523,049 students (520,579 state and 2,500 private) and 1,512 schools (1,481 state and 31 private) in general education. Due to a decline in the birth rate and the level of emigration, overall enrolment has declined and is expected to continue declining. In 2002–2003, in Grades 1–8, the proportion of female and male students was equal, but in higher grades the female-male ratio was about 52:48. In higher education, the ratio was skewed further to 54:46. This distortion could be attributed in part to the move of men and high school boys to income-generating activities, including migration. In recent years, public expenditures in education have been rising although they are still low compared to FSU standards.

b. Government Policy and Programs and Key Issues

125. The PRSP identifies quality and access as the main concerns, and plans to increase educational attainment, raise the completion rate of secondary education, and increase teachers' salaries. The Government's reform program also focuses on curriculum reform, systematic support to teachers and schools, and evaluation of educational outcomes as priority programs. Under its Education Sector Reform Program (2004–2013) and the World Bank's Education Financing and Management Reform Project (approved in November 1997 for the equivalent of $20 million), the Government has begun to improve the quality and efficiency of education expenditures (e.g., by consolidating underutilized schools). High quality textbooks are now available at affordable prices and 40% of schools have some managerial and financial autonomy.

126. Key issues in education include (i) quality and access—curriculum reform and teacher development; (ii) efficiency and financing—student-teacher ratios are low compared to other FSU countries, teacher salaries are low and near the poverty threshold level, and overall budget to the education sector is low; (iii) governance and management—weak strategic planning and policy analysis and the persistence of a top-down approach to school management; (iv) lack of a quality assurance and accreditation system at tertiary level; and (v) lower participation of males in upper secondary and higher education levels.

c. External Assistance

127. The World Bank dominates assistance to the education sector and has provided two loans, the most recent of which is the Education Quality and Relevance Project (approved

20 January 2004 for $19 million equivalent). Other donors include the United Nations Children's Fund (UNICEF)—teacher training and introduction of life skills subjects; DFID—as part of a public sector reform project; Organization for Security and Co-operation in Europe—mainly for gender concerns; Open Society Institute—teacher training in information and communications technology; and International Research and Exchange Board—teacher training and curriculum development.

d. Recommendations for ADB Operations

128. The education sector in Armenia could benefit from ADB's experience in other countries. Conversely, ADB could learn from Armenia's experience. For example, the textbook rental scheme and textbook revolving fund interventions in an ADB project in Uzbekistan was inspired by the Armenian experience. Possibilities include engagement through a sector-wide approach as well as for knowledge enhancement.

3. Health

a. Background and Recent Developments

129. The health of the population in general deteriorated after the economic collapse but conditions have started to improve since 2000.[66] At the outset of independence, there was a marked decline in utilization rates as out-of-pocket expenditures had to make up for the drastic drop in public spending (in 2001, public spending on health care was 1.3% of GDP compared to 6% in other CIS countries). However, progress has been made toward achieving the MDGs as infant and maternal mortality rates decreased. Disparities have developed between urban and rural health outcomes, particularly with regard to infant mortality rates and under-5 mortality, with rural households becoming disadvantaged. Similarly, utilization of health services was higher in urban areas. HIV/AIDS has not been a problem but the capacity to monitor behavioral risk factors of HIV/AIDS and other public health threats is weak. The ratios of physician and hospital beds to population are significantly higher than in industrialized countries. In 2004, Armenia had 140 hospitals, 45 of which were in Yerevan. Average occupancy rates are 30–40% with an average length of stay of 11.7 days. In 1998, the Government established the State Health Agency to administer public health care funds as part of health financing reform. This reform essentially introduced purchaser-provider contracting of health care services in a quasi-market environment.

b. Government Policy and Programs and Key Issues

130. The PRSP's main goal in health is to enhance the accessibility and quality of health services, especially for the poor and rural areas. The PRSP also calls for improved governance of the health system and improved financial management and accountability of health care providers. A new Health Law updating the legal environment is under preparation. The Government's health reform program since the mid-1990s focused on (i) strengthening primary health care; (ii) improving mother and child health care; (iii) separating the provider from the financing function with the aim of improving efficiency and ensuring access to essential health services, particularly for vulnerable groups; and (iv) optimizing the health services network with a move toward more accessible and relatively cheaper primary health care and away from relatively expensive hospital care.

[66] Data problems make definite conclusions difficult.

131. Key issues in health include (i) ensuring sustainable provision of essential health care that is accessible, particularly to the poor; (ii) managing public health threats and preventing avoidable mortality, both from infectious and noncommunicable diseases; and (iii) strengthening the key functions of the state, including good governance, monitoring and evaluation, and appropriate regulations and norms. These issues need to be addressed in the context of constrained public funding, increased out-of-pocket payments and financial barriers to essential health services, excess capacity of deteriorating hospital infrastructure, unbalanced supply of human resources in terms of skill mix and regional distribution, and the constant threat of resurgent communicable diseases.

c. External Assistance

132. The World Bank has provided two loans to this sector, the most recent of which is the Health Systems Modernization Project (approved 10 June 2004 for $19 million equivalent). Other major donors include USAID—support for primary health care reforms and strengthening of licensing and accreditation systems for health care providers, UNICEF—immunization, DFID—through its civil service reform program, and Global Fund for HIV/AIDS—tuberculosis (TB) and malaria.

d. Recommendations for ADB Operations

133. As in education, the Government has been working on a comprehensive sector reform program with the World Bank. ADB involvement in this sector is not recommended.

4. Social Protection

a. Background and Recent Developments

134. The country's basic social protection programs under the former Soviet Union largely ceased with the economic difficulties faced immediately after independence. Assistance for the country's vulnerable population was either eliminated or severely reduced, including pensions for the elderly, welfare assistance for the most needy, assistance for the mentally and physically challenged, subsidized housing, and unemployment benefits for those in career transition. The current social protection system is still modest although relatively well-targeted. The main components are labor pension and family poverty benefits. Overall benefits are low, but they are still an important source of family income, particularly for low-income families. In 2001, labor pension made up 22% of the income of the bottom two quintiles and family benefits accounted for 14%.

b. Government Policy and Programs and Key Issues

135. The Government's policy on social risk management is built on three pillars: risk prevention, reduction, and regulation. The current social protection system thus focuses on the spheres of (i) social assistance to minimize social risks caused by low income and to ensure minimum living standards for vulnerable groups; (ii) pensions and social insurance to protect against social risks resulting from old age and disability, through the allocation of resources throughout the individual's working period; and (iii) employment and wage regulations to protect against social risks related to unemployment and salary loss. The priority areas are (i) social assistance—use of family benefits to reduce poverty among the extreme poor and ensure that their consumption level is not lower than the food poverty threshold, and to provide social protection for the handicapped, orphans, refugees, and other vulnerable groups; (ii) social

insurance—pension programs for the old and the disabled, and allowances for temporary disability and pregnancy; (iii) employment policies—reform of existing inefficient policies to make them more proactive; and (iv) income policies—ensuring minimum wage levels at least equal to the general poverty threshold. These programs are funded from the state budget (1.8% of GDP in 2004) and the State Social Insurance Fund, with substantial donor assistance particularly in public works and social security programs.

136. Key issues in social protection include (i) inefficient use of program resources; (ii) low degree of inclusion of very poor families in the family benefit system; and (iii) weaknesses in social protection administration, including lack of coherence and coordination of tasks, non-comprehensive approach in planning and control, cumbersome administrative procedures, ad hoc management style (particularly in local offices), lack of staff training in information and communications technology applications, lack of management information systems, and inefficient budget preparation and implementation.

c. External Assistance

137. This sector is well-assisted by a number of donors, including World Bank, USAID, TACIS, Swedish International Development Cooperation Agency, and German development cooperation through GTZ. The World Bank has provided three loans to this sector, the most recent of which is the Social Protection Administration Project (10 June 2004 for the equivalent of $5.15 million).

d. Recommendation for ADB Operations

138. ADB involvement in this sector is not recommended. The sector is both well-funded and well-assisted and there would not seem to be much value added by ADB's participation.

5. Water Supply and Sanitation

a. Background and Recent Developments

139. Armenia has abundant water resources, mainly from groundwater sources. According to World Bank estimates, total water resources are estimated at 10.2 billion cubic meters (m^3) per year covering current demand of 2.4 billion m^3 per year. However, water reserves are not distributed equally throughout the country, leaving some parts of the country scarce of water. Deep and shallow groundwater are good quality but shallow groundwater is more vulnerable to pollution from agricultural, industrial, and domestic sources. In many regions, qualitative and quantitative deficiencies in water service require water rationing.

140. The State Committee for Water Economy, which reports directly to the Cabinet of Ministers, is responsible for water supply and sanitation (WSS) and irrigation management. The State Energy Regulatory Commission is responsible for water and wastewater tariff regulation. Five companies provide WSS services in the urban and rural settlements of Armenia: (i) Yerevan Water and Sanitation Company covers Yerevan; (ii) Armenia Water and Sanitation Company, which has 40 territorial branches, covers 300 urban and rural communities outside the capital; and (iii) Norakung, Shirak, and Lori companies provide WSS services in provincial towns.

141. All of the capital, 95% of the other urban population, and 45% of the rural population have access to centralized water service. However, about 600 out of 930 small towns and rural

communities do not have centralized WSS systems. Drinking water supply to consumers has deteriorated because of insufficient investment in water supply infrastructure, and subsequent lack of renewal and maintenance of water supply stations and distribution networks. On average, water service is available for 12 hours per day to about 30% of consumers, with household consumption ranging from 40–180 liters per capita per day. Water system losses are estimated at 65%, and the majority of households do not have water meters. Wastewater services are available for 95% of the capital and 60–80% of the other urban settlements. None out of the 20 wastewater treatment plants is fully operational. Substantial investment is required for their rehabilitation and reconstruction.

b. Government Policy and Programs and Key Issues

142. Since the dissolution of the Soviet Union, the Government has taken a range of steps to rehabilitate and reform the water supply and sanitation sector, with the support of international donors. The legal framework—including a water code, a condominium law, and a privatization law—has been updated to provide a basis for better water services management. The water sector strategy has identified three segments for investments: the capital of the country, medium and small-sized cities, and rural settlements. The following issues have been prioritized in the WSS sector: (i) increase of accessibility, availability, and quality of services; (ii) improvement of subsidy targeting; (iii) enhancement of water sector management efficiency; (iv) streamlining and optimization of the tariff system; and (v) rehabilitation and modernization of the WSS infrastructure. Currently, the Government is streamlining water subsidies and revising water tariffs to ensure the sustainability of WSS services. The Government is planning to phase out water supply subsidies in Yerevan (end of 2006) and the rest of the country (end of 2008).

c. External Assistance

143. With the support of international donors, the Government has invested in capacity development, improvement of infrastructure, installation of water meters, and revision of the tariff system. To date, a total of about $115 million of technical and external assistance has been provided by the World Bank, German development cooperation through KfW, USAID, and UNDP. According to government estimates, to achieve the UN Human Development Goals,[67] the centralized water supply network should cover at least 86% of the population. To achieve this goal, the Government will need to provide secure water supply to an additional 120,000–130,000 households. This will require about $200 million–220 million of investment in the WSS sector.

144. The World Bank has provided assistance of about $73 million to improve WSS services in Armenia. The Municipal Development Project has rehabilitated water supply and sanitation infrastructure and recruited an international lease contractor to operate Yerevan Water and Sanitation Company. Optimized structure, improved efficiency, and streamlined operations of Yerevan Water and Sanitation Company have dramatically improved the quality and sustainability of WSS services in Yerevan. The Municipal Water and Wastewater Project aims to improve the quality and sustainability of water supply services provided to customers in Armenia Water and Sanitation Company's services area.

145. German development cooperation through KfW has provided about €41.6 million to finance Communal Infrastructure Projects I and II, aiming to (i) rehabilitate water supply and wastewater infrastructure; (ii) decentralize WSS management through involvement of

[67] United Nations Development Programme. 2005. *Human Development Report*. New York.

communities and private sector companies; and (iii) improve the quality of water services in three regions of Armenia: Armavir, Shirak, and Lori. The projects have founded a community-owned water supply company, whose shareholders include the State Committee of Water System and the 11 communities and villages covered by the program.

146. USAID has financed the Sustainable Water Resources Management Program, Water Meter Procurement Project, and Strengthening Water Management in the South Caucasus Program. These projects aim to improve the national water policy and institutional framework, rehabilitate the water quality and quantity monitoring systems, and increase local level capacity to improve water quality.

d. Recommendations for ADB Operations

147. Major sector constraints to WSS service delivery include (i) lack of finance for operation and maintenance, rehabilitation, and capital investment; and (ii) lack of management capacity in the territorial branches of the WSS companies. Sanitation faces similar problems and requires significant investments in infrastructure. The total length of the sewerage system is 2,000 km. The existing 20 wastewater treatment plants are not fully operational to date.

148. Given the Government's strategic focus and the involvement of other donors, ADB could provide assistance by investing in improvement and development of WSS infrastructure of small and medium-sized cities and local settlements.

I. Environment

1. Environment Sector Assessment

149. Armenia is endowed with a few natural resources and high biodiversity. Intensive industrialization and poor environmental management during the Soviet period resulted in a high level of inherited environmental pollution. Since the economic collapse following independence, air and water pollution declined dramatically because of the widespread closure of industrial facilities. However, poverty related environmental impacts—such as deforestation for fuelwood, land degradation, and mismanagement of water resources—increased during this period. As Armenia's economy recovers, it has a unique opportunity to develop an environmentally sustainable economy based on appropriate environmental management systems.

150. Air pollution has decreased significantly since the collapse of the industrial sector following independence. From 1987 to 1998, air emissions of the main pollutants decreased by 93% from stationary and 73% from mobile sources. Air emissions have also reduced as a result of increased reliance on nuclear energy and switching from heavy oil to natural gas for power generation. About 90% of air emissions in Armenia are traffic related. The main industrial air pollution sources are metallurgy and cement industries. As industry recovers and transport increases, air pollution levels are anticipated to rise. Air pollution issues are concentrated in the four cities, and are most severe in Yerevan and Alaverdy. Armenia's cities suffer from poor geographical positioning in valleys and enclosed basins which are conducive to trapping air pollutants. Indoor air pollution has worsened since independence, as poor reliability of the energy sector has meant an increase in alternative indoor heating fuel such as coal, fuelwood, dung, and kerosene.

151. Armenia is moderately rich in water resources. However, access to water is unevenly distributed across the country. Surface water quality has improved since independence due to

reduced industrial wastewater discharge from a smaller industrial sector. Wastewater treatment in Armenia is generally inadequate. Existing wastewater treatment plants only service a limited percentage of the population and the treatment infrastructure is generally poorly maintained. Untreated municipal wastewater discharge is a major source of surface water pollution. Surface water pollution also occurs from the mining sector. Assessment of surface water pollution levels is difficult because of limited surface water monitoring. About 98% of the public water supply is obtained from groundwater sources. Groundwater is generally high quality, although in a few areas mining and industrial pollution has impacted groundwater supplies. Armenia has about 73 manmade reservoirs and lakes, which are used for irrigation and hydropower generation. Irrigation has a long history in Armenia, with 80% of the total arable land requiring irrigation. However, irrigation infrastructure is deteriorating and system losses generally exceed 45%. Irrigation infrastructure requires extensive maintenance and rehabilitation.

152. Lake Sevan presents one of the main environmental issues in Armenia. It is an ancient lake and is the largest lake in the Caucasus. Lake Sevan contains 80% of Armenia's water resources. The main environmental issues related to the lake include (i) low water levels due to excess diversion for irrigation and power generation, (ii) eutrophication due to agricultural runoff and urban wastewater discharge, and (iii) threatened aquatic and catchment habitats. Armenia has constructed a number of catchment runoff diversion tunnels to address the issue but there are significant remaining environmental issues, largely related to conflicting water use priorities.

153. Hazardous waste generation in Armenia currently occurs from the mining and metallurgical industries. Tailings from mineral processing are a significant source of soil and water pollution. Armenia inherited a significant volume of hazardous waste from industrial activities conducted prior to independence. There are no designated landfills for hazardous wastes. Armenia's NPP generates low, medium, and high level radioactive waste which is stored at dedicated facilities at the plant. The storage facilities have sufficient storage capacity for future storage requirements. There is a lack of statistical data regarding the generation or disposal of biomedical wastes. In 1987, about 6% of industrial wastes were recycled but virtually no recycling is being conducted at present. Total household solid waste generation is not accurately recorded. However in 1997 it was estimated that 1.8 million m^3 was landfilled annually in the urban areas, although a significant volume of waste is illegally dumped. In 1996 and 1997, it is estimated that municipal waste generation was 180 kg per capita per year, which is similar to other regional countries in transition. There are 47 municipal and 429 rural landfills in Armenia, most of which do not meet health requirements. Laws, regulations, and policies for management of hazardous and nonhazardous wastes in Armenia have been enforced.

154. There are a significant number of industrial sites and landfills with contaminated soil and groundwater but there is no contaminated site registry in Armenia. The use of pesticides and fertilizers declined sharply following the economic collapse after independence but it is beginning to increase as the economy recovers. Increased fuelwood collection following the economic collapse in the early 1990s had a significant impact on Armenia's forests.

155. Armenia has a broad range of climatic zones and a high national biological diversity. This is partly due to a high variation in altitude (375–4,095 meters) with the resulting vertical zonation. Climatic zones include desert, semidesert, mountainous dry vegetation, steppe, subalpine and alpine meadow, forest, and wetland. The Law on Specially Protected Natural Areas defines four categories of protected areas: (i) state reserves, (ii) state reservations, (iii) national parks, and (iv) nature monuments. In 2005, there were 3 state reserves, 23 state reservations, and 2 national parks. The protected areas represent about 10% of Armenia's total

land area. However, lack of resources mean that the land use activities of the protected areas are often inconsistent with the stated categorization.

156. Armenia has a relatively comprehensive range of environmental laws and regulations, including four codes and 21 laws on the environment and related sectors. It passed a National Environmental Action Plan in 1998. The action plan identifies three priority areas; (i) air, land, and water pollution; (ii) overexploitation of natural resources and threatened ecosystems (including the overuse of water, land, and forestry and depletion of biodiversity); and (iii) environmental health problems and hazards. The Ministry of Nature Protection has overall responsibility for designing and enforcing existing environmental legislation. Other ministries involved in environmental management include the (i) Ministry of Agriculture, which controls the use of forestry, and (ii) Ministry of Health, which manages pollution control. Environmental monitoring and enforcement is conducted by the State Environmental Inspectorate within the Ministry of Nature Protection. The inspectorate actively monitors industrial activities but it is restricted by funding constraints and the inability of industry to finance required infrastructure upgrades. Environmental impact assessment is undertaken by the State Ecological Expertise, which is a state non-profit organization.

157. Armenia ratified the UN Framework Convention on Climate Change in 1993 and the Kyoto Protocol in 2002. The Ministry of Nature Protection has been appointed Designated National Authority for implementation of Cleaner Development Mechanism (CDM) projects in Armenia. Currently, three projects have been presented for Designated National Authority approval: landfill gas capture project, energy efficiency project, and small hydropower project. Only the landfill gas capture project has been approved by the Designated National Authority and submitted to the CDM executive board for approval. Due to the relatively small size of the country, there is limited scope for potential CDM projects. However, Armenia has a well-established regulatory framework and an investment climate relatively conducive to the development of CDM projects.

158. Armenia has signed and ratified 15 environmental conventions and 3 associated protocols (2003), including the Convention on Long-Range Transboundary Air Pollution, the Montreal Protocol and the Vienna Convention for the Protection of Ozone Layer, Aarhus Convention, Basel Convention on the Control of Transboundary Movements of Hazardous Wastes, Convention on Biological, Diversity, Convention on Wetlands of International Importance (Ramsar Convention), UN Convention to Combat Desertification, and a range of nuclear safety management agreements. A number of these agreements have yet to be implemented through changes to domestic law and regulations. All international environmental cooperation activities are coordinated by the Department of International Cooperation in the Ministry of Nature Protection. Armenia has been successful in attracting foreign funding and TA for environmental issues. In particular, various bodies of the UN, World Bank, and USAID have been active in providing assistance on environmental management issues.

159. ADB involvement in the environment sector in Armenia could target a number of areas. Rehabilitation and upgrade of the wastewater treatment capabilities would significantly improve surface water pollution. Improved options for residential heating would reduce impact from deforestation. Armenia has implemented a wide range of environmental programs but there is a need to provide additional training of human resources. There is also a need for strengthening environmental legislation as well as environmental monitoring and enforcement.