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Country statement

Azerbaijan

**- Forest Resources Assessment
for Sustainable Forest Management -**

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Evaluation of Inexhaustible Forest Resources Management in Azerbaijan

a) Brief review on forest resources

Azerbaijan has got 1 214 000 km² of forest lands, which makes 11,4 % of its whole area. Among these 1 000 035 ha are proper forests and 989 000 ha are covered with forests but of irregular consistency. The forests are distributed as follows: Grand Caucasus - 49%; Small Caucasus – 34%; Talish Mountains – 15%; Lowlands – 2%. The forests are an integral part of the ecosystem of Azerbaijan. They are generally related to the 1st group. However, they play a significant role not only in climate forming processes, prevention of desertification, decrease of natural diversity, and greenhouse effect, but also help solve social, economic and cultural problems.

Due to territorial heterogeneity and complicated landscape, trees and shrubs can grow as high as 2000-2200 metres above the sea level. It also accounts for the great diversity of plant life. 435 wood and shrubs species grow in our republic, of which 107 wood and 288 shrub species are wide-spread and cover large areas. Eastern beech (*Fagus orientalis*) plays an important role in forming of forest stands. It can be met on 32% of the forest land. Oak (*Quercus*) is a frequent tree species in both hilly and plain regions and occupies 31,5% of the forest area. Larch (*Carpinus*) grows in mountains and at the foothills and prevails on 22,5% of the forest area. The aforementioned 3 species are the major forest-forming ones as they occupy 85 % of the whole forest territory. However, birch (*Acer*), ash-tree (*Fraxinus*), poplar (*Populus*), alder (*Alnus*), juniper (*Juniperus*), Caucasian persimmon (*Diospyrus lotus*), iron-tree (*Parrotia*), turpentine (*Pistacia mutica*), nut-tree (*Yulgans regia*), chestnut (*Castanea sativa*), Zelkova, Lime-tree (*Tilia*), false nut-tree (*Pterokariya*), and others are also regarded as main forest-builders.

Whereas you can meet only 1 oak species in lowlands, in hilly regions there are 6-7 of them. This accounts for the fact that 20-60% of forests are to be found in hilly regions and only 0,5-2,0 % on the plains. The distribution of forest makes 0,14 ha per capita. The structure of forest stands is as follows: hard-leaved wood species stand for 88%, soft-leaved species for 8,9% and coniferous for 0, 06%. The age of stands also ranges from 86 years on average in mountainous regions to 40-60 years on the plains. Annual common wood growth reaches 1,5 m³, which makes 172 m³ per ha. Low density of forests and their poor productivity account for such a low level of annual growth. Besides totally wrong economic approach to forest management in the last years results in decrease of quality and quantity of forest stands. Due to this reason average density of forests does not exceed 0, 54, and the level of bonitet is 3. As the present state of forest lands shows, protective and regenerative measures are to be taken as soon as possible.

Distribution of forest reserves of Azerbaijan according to forest land categories

Forest land categories	Area (ths. ha)	Total (%)
Area covered with forest	989,3	81,5
Including:		
Forest stands	25,9	2,1
Forest stands with joint crown	12,4	1,0
Forest saplings	1,0	0,08
Areas not covered with forest	41,5	3,4
Forest areas, total	1044,2	86
Non-forest areas:		
Including:		

Ploughed land, pastures, hayland	78,4	6,4
Waters	7,8	6,4
Gardens, vines	13,6	1,1
Roads, homestead land	5,2	0,4
Marshland	1,0,	0,08
Sandland	5,9	0,5
Other lands	57,6	4,7
Non-forest lands, total	169,5	14
General forest fund	1213,7	100

Management	Year	Areas covered with forest				
		total	According to age categories			
			Young growths	Middle age	Riping	Ripe and overripe
Coniferous	1988	13,7	3,1	6,3	1,6	2,7
	2010	14,9	3,6	5,6	2,7	3,0
	2020	16,0	2,3	4,3	5,5	3,9
Hard-leaved	1988	848,3	79,49	554,79	114,52	99,50
	2010	858,4	62,59	502,38	173,42	119,9
	2020	866,7	48,29	437,74	228,37	152,1
Soft-leaved	1988	53,9	1,99	19,67	16,28	15,95
	2010	55,5	3,19	16,57	15,48	17,24
	2020	56,9	4,32	16,50	15,71	20,37
Other types and shrubs	1988	73,4	22,09	38,31	5,87	7,12
	2010	75,0	18,19	33,32	14,97	8,52
	2020	76,5	15,19	29,52	20,34	11,45
Total	1988	989,3	106,67	619,07	138,27	125,29
	2010	1003,8				
	2020	1016,1				

Unfortunately, occupation of the part of our territory by Armenia has brought serious financial damage to economics of Azerbaijan. Over 261 000 ha of forest stands have been lost. The forest fund of the country is the basis of its material and economic values, which allows numerous different forms of management. As the result of the transitional period and the aforementioned international strife, over 1 million refugees are on the territory of the republic at the present moment. All these factors have had very negative effect on conditions of forest lands and their phyto- and sanitary qualities.

b) The forests of Azerbaijan are state-protected. Forest management is carried out on the principles of the Forest Code and the Law on Environmental Protection. In the republic of Azerbaijan use of the forest reserves is realized on the basis of legislatively approved contracts. There are 3 forms of the rent of forest lands: recreation, short-term agricultural use and long-term rent with an indispensable condition of planting forest saplings on 20 % of the territory rented. It also includes tending the planted trees until they cover the whole territory with wood.

The structure of Department of Forest Development, which is attached to the Ministry of Ecology and Natural Resources, comprises the following sub-divisions: Department of Forestry, Department of land registration and cadastre, Department of Forest saplings and seed-growing, Department of Forest guarding, and Coordinative Centre. The Department of Forest Development also includes 32 local departments of forest protection and regeneration, 3 forest-planting enterprises and 3 forest nurseries.

Besides them the Centre of protection against vermin and illnesses, geodesic and forest managing expedition and Research Institute of forestry are also attached to the Department. On the whole this sphere employs 2 5552 people.

c) Protective and protected forest and non-forest lands

Managing of especially protected territories, which include forest stands as well, is carried out by the Department of biodiversity and especially protected territories.

Protection of wild life and development of these territories are primary priority all over the world. Thanks to the establishment of especially protected areas it has become possible to preserve endangered animal and plant species. Especially protected territories consist of reserves, national parks, state game reserves and natural monuments.

There are 6 national parks, 13 reserves, 19 game reserves, 2083 trees at the age of over 100 years, 37 geological and paleontological objects, 15 000 ha of endemic and valuable wood stands in the republic of Azerbaijan. The total territory of especially protected zones reaches 594939,1 ha, which stands for 7 % of the whole territory of the state. In future their area is to make 9 % of the national territory. Unfortunately, 1 of the reserves is being occupied by Armenia at the moment. Besides all mentioned above, Historical-natural reserve of Gobustan and Sea National Park of Baku (80 ha) also fulfil nature-protective functions.

The Government of Azerbaijan pays special attention to natural protected areas and carries out continuous work on biodiversity preservation. In order to increase general area of especially protected territories up to 597,7 ths. ha, the Ministry of Ecology and Natural Resources has already scientifically proved and elaborated documents for land registration.

Initiatives and measures carried out by the Ministry of Ecology and Natural Resources and decrees of the president of the republic of Azerbaijan have resulted in foundation of 6 national parks (Ordubad, Shirvan, Altyagach, Aggel, Girkan, Absheron), State Reserve of Shakhbuz and Natural Reserve of Eldorado Pines. In accordance with the decisions of the Cabinet, the reserve of Gakh has been established, whereas the reserves of Garauaz, Ismaill, Ilisuin, Pirkulin and Turianch have been enlarged. This is the first time national parks have been founded in Azerbaijan. The area of the park of Nahychevan (Ordubag) makes 12131 ha, of Shirvan, which is situated on the territories of 3 administrative regions (regions of Saljan, Garadag, and Neftechalin) – 54 375,5 ha, of Aggel (territories of the regions of Agdjabad and Beilagan) – 17924 ha, of Girkan (territories of the regions of Lyanyaran and Astar) – 21435 ha, and of Altyagach (the regions of Khyz and Siazan) – 11035 ha. The status of especially protected areas is determined and regulated by the laws of the republic of Azerbaijan “On the environmental protection” and “On the especially protected territories and objects” and other legislative documents.

The territory of old woods in Azerbaijan reaches 126 000 ha, while the territory of planted stands does not exceed 26 000 ha. As to the rent of forest lands from the state forest fund 298 rent contracts were let in 2003, and 410 contracts in 2004, which allowed establishment new work places and contribution of 60 000 dollars USA to the state budget.

d) Forest reserves and their exploitation

During the Soviet period industrial felling of woods was carried out on the territory of Azerbaijan. However, in year 1991 the importance of forest cove and stabile state of such components as water, air, and soil were taken into account and industrial felling was cancelled by the Government. Since that only wood protective measures and sanitary selection felling have been realized. The wood supply resulting from sanitary felling covers the demand of only small part of the population. It should be mentioned, that the collapse of the Soviet Union, break of connections with the former Soviet republics, shortage of building materials, economic crisis and decrease of annual gas-extraction from 14,5 milliard m³ to 6

milliard m³ have had negative effect on the economical state of the republic. Besides annual supply of 1,2 - 1,5 million m³ of wood and 200 – 250 tons of coal from Russia has also ceased. As a consequence of serious economic crisis the state of wood stands worsened as they were seriously damaged by the population. It is necessary to take in to account that low wood density in lowlands does not allow wood felling, while in hilly regions forests are often located on areas difficult of access or inclined to soil erosion. As a result felling is possible on only 20 % of the whole forest land, which diminishes their area dramatically.

Distribution of major wood species by wood reserves and areas

Appendix

Wood species	Covered with forest		Total reserves of wood	
	Ths. ha	Form the whole area, %	Million m ³	From total reserves, %
Coniferous	13,7	100	0,35	100
Including:				
Pine	2,0	14,6	0,10	28,6
Juniper	11,7	85,4	0,25	71,4
Hard-leaved				
Total	848,3	100	119,89	100
Including:				
Oak	323,39	36,0	30,17	24,4
Beech	326,98	36,4	64,30	52,0
Larch	229,07	25,5	28,19	22,8
Ash-tree	8,08	0,9	0,26	0,2
Birch	2,6	0,3	0,49	0,4
Elm	0,99	0,1	0,03	--
Locust	7,19	0,8	0,30	0,2
Soft-leaved				
Total	53,9	100	3,11	100
Birch	2,85	5,3	0,09	3,0
Poplar	8,53	15,9	0,49	15,5
Alder	17,31	32,8	1,25	40,1
Linden	2,26	4,2	0,18	5,9
Poplar	13,49	25,4	0,85	23,1
Willow	8,82	16,4	0,28	8,9
Other	53,3	6,2	3,77	3,1
Shrubs	20,1	2,2	0,32	0,3
Total	989,3	100	127,44	100

Annual sanitary felling in the republic made 105 000 m³ in 1990, 61 000 m³ in 1995, 71 000 m³ in 2000, 51 000 m³ in 2002, 7 000 m³ in 2003, 11 000 m³ in 2004.

Medicinal herbs, melons and gourds, honey and other non-wood products are sold to the population. As it was mentioned above, as to the rent of forest lands from the state forest fund 298 rent contracts were let in 2003, and 410 contracts in 2004, which allowed establishment new work places and contribution of 60 000 dollars USA to the state budget.

№	Product name	2004		2003		Notes
		Plan	In fact	Plan	In fact	
1	Grass	1395	1119	1860	750	
2	Wheat	170	75,4	723,5	34,5	
3	Barley	75	30	-		
4	Straw	120	15	100		
5	Clover	80	32	95		
6	Melons	205	16,4	245		
7	Vegetables	51	-	23	3	
8	Corn	14		8	5	
9	Potato	55		24	0,6	
10	Orange	5,5	0,5	5,5	4,3	
11	Lemon	0,6	0,1	0,6	0,1	
12	Feijoa	16	3,5	18	5	
13	Kiwi	1	1	1	1	
14	Dry nut	42		44,3	8	
15	Nut	4,1	0,6	44,8	27,6	
16	Chestnut	17	8	19,5	10,3	
17	Sea-buckthorn	3		3		
18	Garden fruit	72		51	0,6	
19	Wild fruit	112		256		
20	Dog-rose fruit	16,5	3,5	19	0,2	
21	Honey	3455	570	6283	966	
22	Wax	355		502,7		
23	Fresh honey	78		67	13	
24	Pomegranate	130		135	21,5	
25	Raw rice	0,5		0,5	0,6	
26	Fish	0,5		0,5		
27	Sorghum			40		
28	Green nut			95	9,6	
29	Bee-glue			2,35		
30	Milk			40200	950	
31	Lambs			1560	410	
32	Wool			8145	1970	
33	Birds			1000		
34	Nuciferous gardens	6700 ha				
35	Nut gardens	326				
36	Chestnut gardens	15				
37	Feijoa gardens					
38	Orange gardens	17				
39	Kiwi gardens	1				
40	Lemon gardens	1,3				
41	Pomegranate gardens	700				
42	Bee families	848				

Information on forest funds is based on reports from forestry organizations. There were no investments in calculation of forest funds and reserves. The Department of Forest Development has necessary possibilities and facilities for information gathering. Reports contain information on transformational processes taking place in forestry, amount of illegal felling, forest regenerative works, protection against vermin and illnesses. All the gathered information corresponds to the real state of affairs.

e) The National Programme of forest restoration and increase of forest lands has been adopted in the republic of Azerbaijan. According to this decree, in years 2003 – 2008 wood restoration will be carried out on the territory of 69700 ha, which includes wood restoration on the area of 44 700 ha and support of natural regeneration on the area of 25 000 ha. Of the mentioned above 69 700 ha, 14 300 ha are territories beyond the forest fund boundaries: areas along highways and railways, in the valleys of the rivers Kura and Araz, banks of other water bodies, and the coast of the Caspian Sea. These works have been included in the National Programme as they need fortification of sandy lands. According to the National Programme, in 2003 sapling and seedling planting was realized on the area of 3701 ha, natural regeneration was tended on 5020 ha (total amount of 8721 ha), in 2004 forest works were carried out on the areas of 3705 and 5421 ha respectively, (total amount of 9126 ha), and in spring of 2005 planting works were carried out on the area of 1676 ha. Restored enterprises, occupied in forest regeneration, planted wood on 584 ha of desert lands.

Information gathering in Azerbaijan faces no special difficulty. However, such problematic questions as tax-free import of wood, which would allow to reinforce nature protective measures, necessary increase of wages in forestry, financial and technical equipment of forestry enterprises, lack of forest monitoring, calculating facilities and qualified specialists still need solving. In this sphere help on the part of international organizations is strongly needed.

There is practically no wood products market in Azerbaijan. In the Soviet period besides sanitary felling, principal (forest regenerative) felling was also carried out. 300-350 000 m³ of wood products were sold annually (including 60-70 000 m³ of industrial wood). There is practically no non-wood products market, either. However, rich biodiversity and potentials of forests in Azerbaijan allow to harvest wide assortment of non-wood products from medicinal herbs to fruit. Investments in rural regions would partially solve the problem. In Azerbaijan wood products are exported and imported mainly by private enterprises.

There is no primary processing of wood products in Azerbaijan. However, there is recycling production of furniture, window frames and other products. For example, such enterprises as Doors of Europe, Khissan Parke, Agaspen, Lotos and some others are involved in recycling production.

As for import of wood products there is no competition in this sphere. If enterprises of non-wood products processing are not to appear and no investments are made, this sphere is not probable to demonstrate perspective potentials.

Marketing

Marketing offices in forestry and wood market simply do not exist. As marketing research is only carried out in agriculture, specific marketing departments were founded for this purpose. Wood prices are state-regulated. Non-wood products are sold on free market principles. There are no forestry marketing institutes and forestry marketing faculties in professional schools of the country.

Ecological and economic zonation of Azerbaijan Republic

Annex 2

No	Ecological-economic districts	Ecological-economic subdistricts	Covered administrative districts	Forest growing zone	Forest percentage	Economic-social direction of the region and forestry management
1	2	3	4	5	6	7
Greater Caucasus region						
I	South micro-districts of Greater Caucasus (low-forested)	1. South slopes of Greater Caucasus	Balaken Zagatala Gakh	Semidesert Desert plateaus	30,3	Study of temporary state of environmental pollution and scientifically-technically prediction of this process for recent 15-20 years, study of state, productivity and environmental impacts of existing forests, development of complex forestry forest-meliorative measures against erosion, flooding and desertization, effectual use of forests
		2. Central-south slopes of Greater Caucasus	Oghuz Gabala Ismailli	Foothill plains Mountain-forest	17,0	
		3. Southeast slopes of Greater Caucasus	Sheki Shamakhy Aghsu	Semidesert Desert plateaus Mountain-forest	4,7	
II	Northeast slopes of Greater Caucasus (low-forested)	1. Mountain-forest	Guba Gusar Devechi	Foothill plains Plateau	18,1	effectual use and recovery of forests, normalization of using forests for tourism development and recreation purposes, cultivating field-preventing woods in irrigated lands and seaside sands
		2. Caspian plain	Khachmaz	Mountain-forest Plain forests	13,6	
III	Absheron		Absheron Peninsular Gobustan		0,2	Complex study of manmade impact on air basin, land and water to prevent strong ecological tension

1	2	3	4	5	6	7
Lesser Caucasus Region						
IV	Northwest part of Lesser Caucasus (low-forested)		Aghstafa Tovuz Shankir Gedebei Dashkesen Gandja	Kur-side plains Foothill desert Mountain-forest	10,0	Study of manmade impacts on environment. Investigate the state of erosion and desertization process. development of complex forest-meliorative measures against erosion. Increase of forest area. conduct of reconstruction of low-valuable undergrowth and bush melioration of suburb and winter pastures
V	Central Garabagh (low-forested)		Khankendi Aghdere Khojavend Martuni	Foothill plains Mountain-forest	14,9	to prevent strong ecological tension, complex evaluation and prediction of manmade impact on air basin, land and water, development of complex organizational, economic measures, recultivation of polluted lands, cultivation of preventive forests against wind erosion, salinization, melioration of pastures, establishment of grass-plots parks improving sanitation status of cities and settlements
VI	Low-forested southeast region		Gubadly Zangilan Djabrail Fuzuli	Araks-side plains Plateau Mountain forest	5,2	
VII	West region		Kelbadjar Lachyn	Plateau Mountain forest	22,1	

1	2	3	4	5	6	7
southern region						
VIII	Southern regions of the Republic	1.Mountainious areas 2. Lenkeran lowland	Astara Lenkeran Lerik Yardimli Masalli Calilabad	Low mountain Mountain-forest Irrigated coastal lowlands	20,3	State of environmental pollution. Finding out their sources and prognosis, expansion of plantation of coastal agricultural plants(irrigated areas), subtropical industrial crops, growing up forest protective shelter belts. Sustainable use of natural forest.
Kur-Araks Region						
IX	Kur-Araks lowland (non-forested)	1.Central desert subregion	Yevlakh Aghdjabedi Berde Kurdemir Udjar Aghdash Goichai	Low mountain Slope plains Central plain	0,2	Investigation of environmental pollution, development of agriculture, animal husbandry, garden farming and technical plants, melioration of lands, preservation and recovery of existing (Tugai) forests. Increase of their fertile functions, optimizing preventive forests and forest belts of different appointment to prevent lands from water and wind erosion and salinization, establishment of greenery in cities, villages and settlements, cultivation of forests around roads and water installations.
		2.Eastern plain	Salian Sabirabad Neftchala Ali-Bairamly Gazymammad	Seaside sands Irrigated	0,2	
Nakhchivan region						
X	Nakhchivan (non-forested)		Nakhchivan Ordubad Shahbuz Djulfa	Araks-side plain Araks-side foothill continental mountainous	0,4	Investigating pollution of lands and water basins, preparation of scientific-technical arrangements against them, agriculture in irrigated lands of Araks-side plain. Increase of fruit trees and areas of technical plants, cultivation of preventive forests in foothill and mountain belts against erosion, strict protection of existing forests, extension of their areas, greening cities and settlements

Age zonation of Azerbaijan forests 1988

Undergrowth forestry	Forest-covered areas, thousand ha	Age zonation of forest-covered areas, thousand ha				Total resource, million m ³		Total average growth	Average age, year
		Young undergrowth	Middle aged undergrowth	Growing undergrowth	Grown and old aged undergrowth	Total	Including grown and old aged		
Coniferous, %	13,7	3,1	6,3	1,6	2,7	0,35	0,07	0,00	79
	100	22,6	46,0	11,7	19,7	0,3	0,4	---	
Hard-leaved, %	848,3	79,49	554,79	114,52	99,25	119,65	18,96	1,34	86
	100	9,4	65,4	13,5	11,7	93,0	90	92,5	
Soft-leaved, %	53,9	1,99	19,67	16,28	15,95	3,11	1,15	0,04	50
	100	3,7	36,5	30,2	29,6	1,2	2,50	1,85	
Other and bush genera, %	73,4	22,09	38,31	5,87	7,12	4,33	1,13	0,26	68
	100	30,1	52,2	8,0	9,7	3,4	7,11	4,2	84
Total, %	989,3	106,67	619,07	138,27	125,29	127,44	30,96	1,44	
	100	10,7	62,5	13,9	12,6	100	100		