

Country report on
the state of the world's
animal genetic resources

Georgia

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1.1 General information



Capital - TBILISI, population - 1.25 thousand

Population of the country - 5.5 million
(between them 2,5 million country population)

Density of population per sq. km. - 78,1

Sovereign State since 1991

National currency - lari (from 1995)

Member of the Council of Europe (COE) from 1998

Member of the United Nations from 1992

Georgia is located in the Caucasus at the crossroads of Asia and Europe on the northern periphery of subtropical zones between the northern latitude of 41-42° and eastern longitude of 40-46° (Greenwich meridian). Georgia represents east gateway to Europe along with other states of the South Caucasus - Azerbaijan and Armenia.

In terms of modern borders, the territory of Georgia amounts to 69,7 thousand sq. kms. Georgia is bordered by the Black Sea from the West, Azerbaijan - from the East and South-East and the Russian Federation - from the North. The Southern geographical boundaries run along the Minor Kavkasioni mountain range and divide Georgia from Turkey

and Armenia. The total length of the border is 1968,8 kms, whereas the land border totals 1660,4 kms. Vertically, the territory of the country spreads up to 5068,8 meters above the Black Sea level (Mount Shkhara).

Georgia's geographical location resulted in the diversity of its nature, as Georgia is distinguished for contrasting relief and 2/3 of its territory is mountainous.

Georgia is one of the oldest countries in the world. Its statehood counts 3000 years. Georgia's population is represented by Georgian nation, which amounts to 3,5 million. Abkhazians are separate nation and amount to 90 thousand. Armenians (500 thousand), Azerbaijanis (400 thousand), Russians (200 thousand), Ossetians (160 thousand), Greeks (150 thousand), Jews (80 thousand), Kurts (40 thousand) live in Georgia. (The figures need to be specified). In addition, there are Ukrainians, Poles, Germans, Kists (Chechens) and people of other nationalities as well. Historically, Orthodox Christianity has been regarded as an official religion.

POPULATION

(as of the beginning of the year, inhabitants)

	Permanent population	Rural population	Share of rural population in total population, %
1980	5052.8	2418.0	47.9
1985	5264.1	2430.4	46.2
1990	5456.1	2397.9	43.9
1991	5464.2	2391.2	43.8
1992	5462.8	2394.7	43.8
1993	5447.1	2398.3	44.0
1994	5433.5	2403.3	44.2
1995	5417.7	2402.7	44.3
1997	5416.0	2403.8	44.4
2000	5423.6	2408.9	44.4

Georgia is rich by the diverse landscapes, contrasting nature, Kavkasioni mountain range covered with eternal snow and glaciers, subtropical zones of the black coast, also by the internal waters (rivers, lakes, reservoirs, underground waters, marshes, waterfalls, healing

mineral springs), caves, health-resorts, historical and cultural monuments. The Georgian territory is covered with great number of water abounding rivers. There are 25075 rivers in total (the common length 54768 km).

Georgian rivers appropriate to the Black and Caspian Sea basins. Most of them come from Kavkasioni mountain range with great descent and create the deep gorges. The biggest river is Mtkvari in east Georgia, which takes its source in Turkey. The biggest river in west Georgia is Rioni. There are a lot of different original lakes in Georgia, about 860. Most of them are very small. The important lakes are: Paravani, Khozapini, Tabatskuri, Bazaleti, Paliastomi, Ritsa. The marshes occupy especially great place (225000 hectare) on Kolkheti lowland in west Georgia. The Georgian water resources are used for watering, water supply and energy.

On the Georgian territory we meet the all types of climatic zones existent on the Earth. In west Georgia there is the damp, subtropical climate. In east Georgia - continental. In the zone of eternal snow and glaciers the climate is cold.

The Georgian plant covering is various. Here we meet the damp, subtropical forests European type foliage forests, coniferous forests, the fields of lowland and upland, and the sub alpine and alpine meadows. The forest occupies the great territory of Georgia. In the west Georgia it is extended till 2400 meters from the sea level. In the east Georgia it is in the gorge of the river Mtkvari, also on the south branches of the Kavkasioni mountain range, on the ranges of Adjara - Akhaltsikhe and Trialeti. There are also uplands without forests and half deserts.

In Georgia there are unique reserves and forest parks. Between them Borjomi, Lagodekhi and Kharagauli have international significance. Rare beasts dwell in Georgian forests. The hunting is very popular in suitable seasons in Georgia.

There are about 100 health-resorts in Georgia, from which 7 (Borjomi, Tskaltubo, Gagra, Akhali Atoni, Bichvinta, Kobuleti, Gudauri) are of international significance.

Here we meet seaside climatic health-resorts located in the recreation district of Abkhazia and Adjara and partially in Kolkhety. Also balneological climatic health-resorts in the zone of west Georgia lowlands and mineral springs. Georgia abounds in mountain climatic health-resorts, which are the resorts Gudauri and Bakuriani.

Georgia is motherland of mountain climbing and it's referred as the country of caves.

According to the Zoogeography Georgia appropriates to the Arctogeiy land, Holarctic district and the Mediterranean sub district.

The list of the animals characteristic of the Kavkasioni main mountain range, west and central Transcaucasia

Endemic

West Caucasian aurochs
Dagestani aurochs
Prometheomys mouse
Caucasian black grouse

Common to the east Transcaucasian

Grey rabbit
Usual hedgehog
Caucasian pheasant
Caucasian tortoise

Widly spread in common

Brown bear
Lynx
Fox
Badger

Common to the west Europe

Chamois
Snow field-vole
Forest cat
Forest marten
Mole
Kind deer
West nightingale
Tree frog

Common to the copetdag

Leopard
Snow field-vole

TRACECA - Transport Corridor Europe Caucasus Asia

The idea of launching the TRACECA project belongs to President of Georgia Eduard Shevardnadze. In May 1993 a conference involving European Union member countries (Kazakhstan, Uzbekistan, Turkmenistan, Tajikistan, Kyrgyzstan) and South Caucasus States (Georgia, Azerbaijan, Armenia) was held, which laid the foundation for the TRACECA program. The program foresaw to develop a transport corridor on a West-East axis from Europe, across the Black Sea, through the Caucasus and the Caspian Sea to Central Asia.

It was then decided that this program would be funded by the European Union.

TRACECA is an international program of the European Union. It is implemented by the organization Tacis.

The construction of an oil pipeline is one component of the TRACECA project. Many successful activities are connected with this project, including an interstate INOGATE project, which implies development of routes for oil and gas pipelines

Transport corridor of Europe-Caucasus-Asia is a repeated version of the oldest Big Silk Route. Starting from the 1st century BC, it has played a significant role in connecting eastern and western civiliza-

tions. Currently, the revival of this route is prompted by historical changes. The transportation of cargoes in Europe coincided with searching for alternative ways for selling their own cargoes by the post-Soviet countries. It is easy to use railway services from the countries of East to Turkmenistan. Ferryboat system is functioning in the Caspian Sea and therefore two countries of the Transcaucasus - Azerbaijan and Georgia are becoming crucial countries of the corridor.

One of the major functions of the Europe-Caucasus-Asia route is to transport oil and natural gas. Their transportation is more favorable by means of pipelines. Central Asia region is one of the richest basins of oil and gas throughout the world. It is scheduled to involve fuel raw materials of China, Pakistan and other Southern-Eastern countries of Asia in this project as well.

Besides, this route has far-sighted prospects, which implies transportation of readymade produce of light industry made by the European firms to the South-East Asia.

According to modern territorial-administrative division, Georgia is represented by the following historical-geographic units: Tbilisi, Kakheti, Samegrelo, Svaneti, Kvemo Kartli, Mtskheta-Mtianeti, Imereti, Samtskhe-Javakheti, Shida Kartli, Racha-Lechkhumi, Guria, Abkhazia, Adjara. Georgia's regions are divided into administrative districts and the districts themselves are divided into Sakrebulo (city councils).

- Kakheti Region Area - 12,2 thousand sq. km
Administrative centre and the biggest city - Telavi
- Samegrelo & Zemo-Svaneti Region Area - 7,44 thousand sq. km
Administrative centre of the region - Zugdidi
- Kvemo-Kartli Region Area - 6,8 thousand sq. km.
Administrative centre - Rustavi
- Mtskheta-Mtianeti Region Area - 6732 sq. km.
The centre of the region - Mtskheta
- Imereti Region Area - 6,59 thousand sq. km.
The center - Kutaisi, which comes second according to its size and significance.
- Samtskhe-Javakheti Region Area - 6,43 thousand sq. km.
Administrative center - Akhalkalaki
- Shida Kartli Region Area - 3440 thousand sq. km.
Administrative center - Gori
- Racha-Lechkhumi and Kvemo Svaneti Region Area - 4,56 thousand sq. km.
- Guria Region Area - 2,03 thousand sq. km.
Administrative center - Ozurgeti

- Abkhazia
Area - 8,7 thousand sq. km
Administrative center - Sukhumi
- Autonomous Republic of Adjara
Area - 2,9 thousand sq. km.
Administrative center - Batumi

1.2 Characteristics of agriculture of Georgia

Georgia is agricultural country of a vital importance in the Georgian economic, and its share in GDP accounts for 28%. About 1,3 million people are employed in this branch, it is 55% of the total employment of the country.

EMPLOYMENT

(people)

	Number of employed in national economy, total	Of which in agriculture	Share of employed in agriculture in total number, %
1980	1763,0	751.1	42.6
1985	2667.3	728.2	27.3
1990	2763.3	695.0	25.2
1991	2518.5	666.1	26.4
1992	1984.2	639.8	32.2
1993	1792.0	553.4	30.9
1994	1749.7	539.0	30.8
1995	1932.7	732.7	37.9
1997	2036.0	1023.5	50.3
2000	2354.8	1304.7	55.4

The significant branches of the agriculture country are: Agriculture (husbandry, vegetable growing, fruit-growing, horticulture, viticulture, tea-culture, citrus-culture, tobacco-culture, potato-growing) and live-stock rising (cattle-breeding, swine-breeding, sheep-breeding, poultry, rabbit-breeding, bee-keeping, goat-breeding, horse-breeding, beast-breeding, pool-fishing).

SHARE OF BRANCHES OF ECONOMY IN GROSS VALUE ADDED

(at current prices: %)

	1990	1992	1994	1995	1997	1998	2000
Agriculture	28.4	54.9	69.6	65.1	38.4	32.5	29.5
Forestry	0.2	0.2	0.1	0.0	0.1	0.1	0.1
Industry ¹⁾	29.1	13.2	8.5	8.4	15.1	15.8	11.9
Construction	8.4	6.8	0.9	1.7	4.1	5.1	5.0
Service	33.9	24.9	20.9	24.8	42.3	46.5	53.5

¹⁾ including other activities of material sphere

VOLUME INDICES OF GDP AND VALUE ADDED IN AGRICULTURE AND FORESTRY

(in comparable prices; as % of previous year)

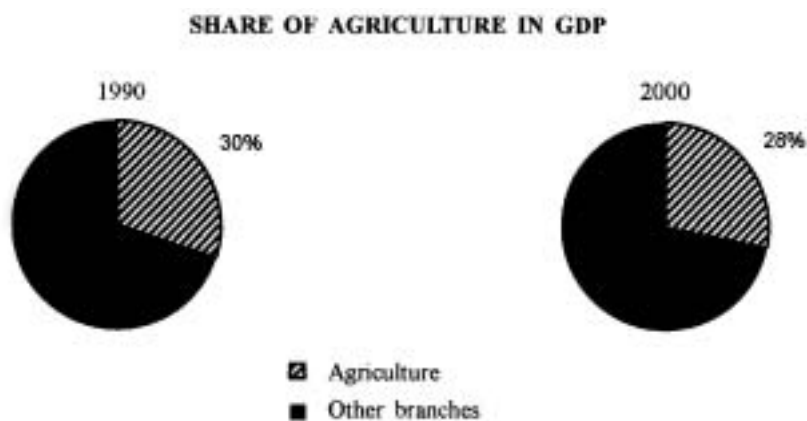
	1990	1992	1994	1995	1997	1998	2000
GDP	78,9	55,1	70,7	108,7	103,3	111,2	111,3
Agriculture and forestry	83,9	61,8	59,7	121,9	113	106	107,1

ANNUAL AVERAGE MILK YIELD PER COW

(kg)

Year	
1980	1037
1985	1043
1990	1108
1991	1007
1992	850
1993	849
1994	871
1995	913
1997	982
2000	1068

Formations of market relation structures in the agriculture of Georgia, creation of new type of enterprises, redistribution of agricultural output in the private sector, principally new representation of consumers' market under free trade conditions require carrying out reforms in the state statistics. In fact the material-technical base and equipment of agriculture would be established from the beginning.



AGRICULTURAL PRODUCTION IN 2000

(in actual prices)

	Total	Of which:	
		in agricultural enterprises	in households
Agricultural output			
mio. Lari	2280	436	1844
mio. USD	1754	335	1419
Plant-growing output			
mio. Lari	1364	233	1131
mio. USD	1049	179	870
Livestock output			
mio. Lari	916	203	713
mio. USD	705	156	549

The structure of agricultural area ownership underwent a significant transformation on the first stage of the agrarian reforms. After the land reforms about the one million families became the owners of nearly 30% agricultural areas.

INDICES OF AGRICULTURAL PRODUCTION

(as % of 1995-2000 annual average)

	Total	Of which:	
		in agricultural enterprises	in households
1995	108.5	87.0	117.7
1997	115.1	76.8	131.0
2000	122.5	82.0	141.7

LAND AREA OF GEORGIA AND ITS DISTRIBUTION ACCORDING TO THE AGRICULTURAL LAND AND LAND USERS

(as of January 1, 2000)

(1000 ha)

Nomination of land users	total land area	of which agricultural land total	of which:		of which:					meadows	pastures
			arable	perennial crops total	gardens	vineyards	tea	citruses	other-bearing plants		
Land of all categories: total	6949,0	2988,6	781,1	284,6	70,6	78,5	59,7	25,7	5,5	148,0	1774,9
of which: privatized land	766,0	726,7	406,9	187,9	65,6	67,0	12,2	14,6	0,4	48,0	83,9
Land in state use, total	6183,4	2261,9	374,2	96,7	5,0	11,5	47,5	11,1	5,1	100,0	1690,8
of which: Land of agricultural enterprises	3277,1	2125,7	367,1	87,9	5,0	11,2	47,4	11,0	5,1	90,2	1626,6
Land of state reserves	82,7	51,0	-	-	-	-	-	-	-	3,6	47,4
Land of state wood	2488,7	71,7	2,1	7,1	-	0,2	-	-	-	6,3	56,2
Land settlements cities (towns) urban type settlements, health resorts and other settlements	72,2	2,7	0,6	1,4	-	0,1	-	0,1	-	-	0,7
Land of industry, traffic, defence, communication and lands of other organizations	109,5	7,6	3,6	0,3	-	-	0,1	-	-	0,1	3,6
Land of historic and cultural, recreation - sanitation, nature preservation purpose	1,0	-	-	-	-	-	-	-	-	-	-
Land of churches	3,9	3,0	0,8	-	-	-	-	-	-	0,4	1,8
Water	147,5	-	-	-	-	-	-	-	-	-	-

STRUCTURE OF AGRICULTURAL LAND

(1000 ha)

Year	Total	of which		
		arable	permanent	meadows and pastures
1980	2933.8	766.9	369.4	1794.2
1985	2968.9	783.2	357.0	1825.8
1990	2977.5	790.4	336.9	1844.2
1991	2978.6	796.2	332.4	1844.0
1992	2990.5	806.2	323.3	1855.3
1993	3010.9	799.5	322.2	1881.8
1994	3010.7	797.1	320.5	1881.8
1995	2988.1	759.3	307.0	1910.1
1997	2988.6	781.1	284.6	1922.9
2000	2991.1	785.0	277.5	1928.6

On this stage the reorganization processes of agricultural enterprises is carried out. The former collective farms, state farms and other types of state agricultural enterprises, being founded on the private cooperative and other kind of ownership transformed into new legal-organization forms.

GROWTH RATES OF PRODUCTION AGRICULTURAL OUTPUT

(in %)

	1985=100	1990=100
1980	91	100
1985	100	110
1990	91	100
1991	58	64
1992	50	55
1993	44	49
1994	49	54
1995	56	62
1997	60	65
2000	63	70

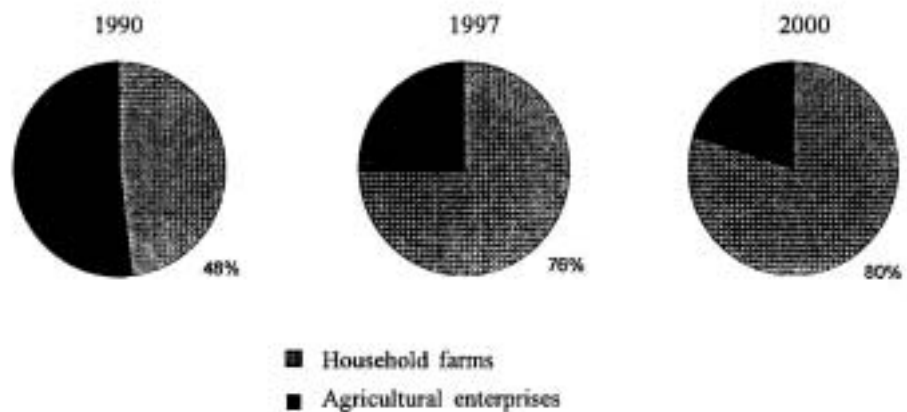
AGRICULTURAL OUTPUT PER HECTARE OF AGRICULTURAL LAND PER CAPITA

(in USD)

	per ha of agricultural area	per capita
1980	1472	0.84
1985	1597	0.90
1990	1319	0.78
1991	928	0.50
1992	800	0.44
1993	700	0.38
1994	781	0.43
1995	893	0.48
1997	945	0.51
2000	1007	0.56

On the land area, being the state property, agricultural enterprises, having a status of treasury enterprises, are engaged economic activity. These enterprises are represented mainly by pedigree cattle, seed growing, sapling, and experimental scientific research and by enterprises of other trends. Besides the treasury enterprises, a lot of enterprises of different forms of property act in the rural area with the legal status of agricultural enterprises, of which - companies of limited liability, companies of joint liability, joint-stock companies, co-operative farms and individual farms.

THE RATIO OF THE HOUSEHOLD FARMING PRODUCTS TO THE TOTAL OUTPUT



The land privatization and agricultural enterprises reorganization charged significantly the transactor of entrepreneur and the structure of agricultural output. Today the household is the main producer of output. The share of their output in the total agricultural output in 2000 accounted for 80%.

OUTPUT OF LIVESTOCK PRODUCTS PER CAPITA

(kg)

Year	meat	milk	eggs ¹⁾
1980	27.9	127	129
1985	31.8	131.2	158
1990	31.2	120.7	141
1991	25.1	102.9	117
1992	20.8	86.1	55
1993	18.5	79.6	45
1994	20.0	79.2	46
1995	21.3	87.9	50
1997	21.7	97.8	65
2000	22.1	110.3	68

¹⁾ Is given in units

Integration of Georgia in the world economic system and its interrelations with international organizations in the agrarian sector demand the perfection of statistical and account methods.

CONSUMPTION OF MAIN FOOD PRODUCTS

(average annual; kg per capita)

	1985	1990	1991	1992	1993	1994	1995	1997	2000
Bakery products (bread and macaroni products (in terms of flour), total	175.1	184.6	183.6	175.0	214.3	152.6	153.5	161.3	154.2
Potatoes	46.6	37.3	36.8	33.3	38.9	25.4	26.8	42.0	44.7
Vegetables, total	78.7	71.1	77.2	65.2	72.3	51.5	55.8	85.6	81.2
Fruits, grapes (including dried, in terms of fresh fruit) total	60.1	48.3	49.3	42.5	43.9	33.2	36.7	66.3	60.2
Sugar	20.2	17.0	10.1	7.0	6.1	4.8	6.0	21.0	23.0
Meat and products in terms of meat	41.5	36.5	26.4	19.5	22.9	9.4	12.5	14.6	15.6
Fish, including canned fish (in terms of fish)	7.3	8.0	6.6	2.8	1.4	0.4	0.6	1.3	1.4
Milk and dairy products (in terms of milk)	321.0	311.3	308.9	144.1	148.0	90.6	97.9	178.4	217.6
Eggs, (unit)	149.3	140.0	112.9	89.1	75.0	63.2	66.1	105.0	107.7

NUMBER OF LIVESTOCK

(1000)

Year	cattle	of which: cow	pigs
1980	1564,0	621.3	943.1
1985	1645.5	649.2	1173.4
1990	1298.3	551.7	880.2
1991	1207.9	542.9	732.5
1992	1002.6	502.0	476.2
1993	928.6	486.5	365.1
1994	944.1	514.3	366.9
1995	973.6	531.3	352.6
1997	1008.0	543.6	332.5
2000	1027.2	551.0	330.3

Year	sheep and goats	horses	poultry
1980	2043.8	28.2	18781.0
1985	1979.6	25.0	24295.6
1990	1618.1	19.5	21759.7
1991	1469.6	18.2	20167.4
1992	1191.6	16.8	11210.9
1993	958.1	19.5	11857.5
1994	793.3	21.4	12290.2
1995	724.8	23.8	13846.7
1997	652.0	26.3	14645,1
2000	583.5	27.8	15500

Last years the growing rate of general production of livestock rising and poultry significantly reduced. The livestock of agricultural animals, poultry and the production reduced also.

OUTPUT OF LIVESTOCK PRODUCTS

(1000 t)

Year	meat	milk	eggs ¹⁾	wool
1980	143.1	642.2	654.9	6.3
1985	166.4	684.4	822.7	6.2
1990	170.3	659.4	769.2	6.2
1991	137.2	562.3	638.1	4.7
1992	113.4	469.6	297.3	4.2
1993	100.4	433.1	242.8	3.7
1994	108.3	429.3	250.6	3.4
1995	115.4	475.4	269.4	3.1
1997	117.8	530.3	350.2	3.0
2000	120.0	600.0	370.0	1.7

¹⁾ Is given in mio units

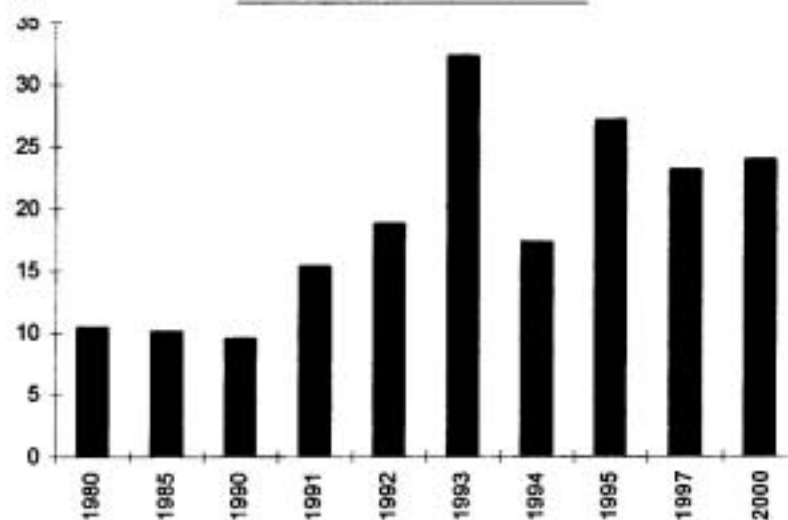
**SHARE OF PRIVATE SECTOR IN PRODUCTION OF MAIN
AGRICULTURAL OUTPUT**

(in %)

	1991-1995 average	1995	1997	2000
Grain crops and pulses	55	79	78	80
of which:				
wheat	7	26	20	61
grain maize	88	95	94	93
vegetables	87	97	95	92
potatoes	84	97	96	98
fruits	95	99	99	99
grapes	77	94	97	97
citruses	88	97	95	94
meat	84	97	97	99
milk	85	96	96	98
eggs	70	97	99	99
wool	76	92	95	94

**SHARE OF INCOME FROM AGRICULTURAL OUTPUT
REALIZATION IN HOUSEHOLDS
MONEY INCOME**

Year	in %
1980	10.4
1985	10.1
1990	9.5
1991	15.3
1992	18.8
1993	32.2
1994	17.3
1995	27.1
1997	23.1
2000	23.9



Nowadays, the small household agricultural livestock raising farms (3-15 cattle or mixed types) compose the great part of the household farms developed in Georgia and the middle farms compose part of it (20-50 cattle or mixed types). In Georgia in fact there aren't pedigree farms, although here are the serious conditions for their development and regeneration.

During the period of Soviet Union the genetics and selection development rates were hindered and this branch of science was persecuted. On 8 August 1949 confederate agricultural academy session and its teaching was forbidden. The repression of genetics began. This repression significantly influenced Georgian genetics, but in the country the potential for the development of this branch was very high and Georgian scientists continued the work to this direction.

2. THE STATE OF THE PRODUCTION SYSTEMS

2.1 Primary Animal Production Systems

There are three major production systems in Georgia which significantly contribute to food production and agriculture, rural communities or ecology:

1. a low-input system - mostly non-certified organic production (ecological production);
2. a medium- input system - mixed production;
3. a high-input system - intensive production.

Low-Input System

A low-input system mostly refers to non-certified organic production. Non-certified organic production is substantially present generally in all region of Georgia at the small and middle family farms.

Certified organic production is a system of farming, today relatively marginal in Georgian agriculture, but has a potential to expand owing to natural conditions and traditional relation towards conservation of agricultural resources.

Indigenous breeds represent a natural value not only regarding genetic diversity but also regarding their impact on diversity of ecological systems and landscape.

Medium-Input System

A medium- input system refers to a system of sustainable or basic production which is of a mixed type - dependable on geographic, social and economic factors. Each of family farms belong to the medium-input system as central categories of ownership traditionally related to

Georgian agriculture. It is an integral farming with unfailing livestock breeding and traditional farming;

There is an increase in intensive production systems on family farms today. Within the framework of a sustainable agriculture system family farms usually raise more than one livestock species (cattle, pigs, poultry, sheep, goats).

As well Imported as indigenous animal breeds are predominant in Georgia.

High-Input System - Intensive Production

Intensive agriculture is a market-oriented agriculture which aiming at high profits and marketability product and nowadays there is not any investments by capital producers.

This system has mostly been developed on a smaller number of family farms. This system gives priority to poultry breeding in Georgia.

Organizational Characteristics of Production Systems

The privatization process has changed the ownership structure by creating mixed, stock and holding companies.

The sustainable agriculture system consists of majority of family farms, which implies private ownership of farms. Most of them are of mixed production.

Input Dependence

In the sustainable agriculture system majority of family farms utilize their own crop production for the provision of basic animal feeds and consequently, does not depend on the outside input. They depend on the veterinarian care, selection and counseling services and some of them also on the purchase of highly concentrated protein components, mineral and vitamin additives.

This dependence affects productivity and health of the extant animal genetic resources.

Risk Factor Impact

After Georgia gained its political independence, there were significant social and economic changes in Georgian economy and agriculture, accordingly. Transition processes, privatizations, and other capital resources declined agricultural production and foreign trade balance.

The transition shock in the change to market economy resulted in similar phenomena in agricultural-food industry complex and in the overall economy likewise: a decline in production and employment, indebtedness, technological underdevelopment, a decline in the bal-

ance of trade exchange and non- liquidity.

Although declaratively favourable for farmers, inadequate system of financial and institutional support to agriculture in practice has either directly or indirectly caused the state money transfer into inefficient and slow systems. High external production costs, rigid revenue system, chronic lack of cheap capital (necessary for agriculture), irrational trade and distribution system and insufficient budget support are only some of the major factors of production decline, low level of self-sufficiency and high prices of agricultural and food industry products.

The process of agricultural land management is very slow and inability to buy land still restricts the property enlargement which directly affects the increase of animal fund, especially on family farms. The functioning of the agricultural and food industry products is restricted by disloyal competition and insufficient legislation.

It especially affects direct family farming engagement in the distribution of agricultural and food industry products and non-existence of institutional frameworks, which would determine the farmer's position on the market.

All the afore-mentioned factors are present as risk factors in all livestock production systems, regardless of animal species. Livestock production requires constant investments. However, capital is extremely inaccessible, while low standard, social turmoil, currency fluctuations and livestock diseases constrain security of livestock production.

Apart from the above-mentioned risk factors we need to emphasize occasional droughts and floods, as well as various animal diseases, which have seriously affected all animal production systems in the last ten years.

2.2. The Most Important Animal Products

The following species are utilized in primary livestock production: cattle, pigs, sheep, goats, poultry, fish and bees. Cow milk is predominant in milk production, while pork, meat and poultry are equally represented in meat production. Locally adapted breeds have far greater significance in all livestock production than modern imported breeds.

The most important primary livestock products are meat, milk, eggs, fish and poultry.

Georgian regions differ in respect of significance of these products.

The importance of secondary products in Georgia is related to particular regions, depending on geographic, social and economic status, management of natural resources.

In the last years there has been a significant cease in livestock product export, owing to their import. Since we are not self-sufficient in

livestock production, everything we produce is mostly for the domestic market. Social difficulties and privatization processes have substantially contributed to a decline in the livestock production for the domestic market and export.

2.3. Major Trends or Significant Changes in the Use and Management of Animals

In the last ten years there have been significant changes in the use and management of animals. The changes resulted from the changes in the ownership structure, application of new Agriculture Acts, Agricultural land Act.

Objectives and measures of the politics of changes in the ownership structure are: an increase in the size of family farms, i.e. property enlargement through privatization of sale or lease of agricultural land in the state ownership. In livestock production it implies an increase in livestock fund, modernization in production capacities in order to improve product quality and provide population with food security as much as possible by competitive domestic agricultural products. At the same time the objective is to create production conditions for ecological products.

There have been significant changes in the infrastructure of animal production in the last ten years. Business politics has been oriented towards emphasizing domestic, competitive production in order to meet needs for food products.

The courses of action for agricultural politics with the aim to restructure the agricultural sector are:

- subsidy for vital commercial farms;
- modernization of production capacities, agro-technological and agro-economic procedures;
- increase in the role of farmers on the agricultural product market;
- impact on the changes in the agrarian structure and production technology in order to increase competitiveness of agricultural production;
- implementation of financial resources and compensations in agriculture;
- reform of the fund for financing and subsidizing farmers;
- implementation of selection work in livestock breeding;
- counseling support;
- increase in efficiency of administrative and special services and associations in agriculture;
- stimulation of personnel training;

- implementation of measures for protection of biological and landscape diversity in farming;
- stimulation and development of ecological and traditional agriculture and agriculture that allows the survival of a relatively rich animal world.

All this considerably affects production systems in livestock production.

Today the major limiting factors and constraints which affect the productivity and efficiency in livestock breeding are small scale farms, still unfinished privatization, inefficient production owing to insufficient education, market instability, lack of processing and final processing capacities, lack of cheap capital and insufficient financial support. All this is actually a combination of limiting factors which follow agriculture of the countries in transition.

3. THE STATE OF ANIMAL GENETIC RESOURCES DIVERSITY

3.1. The State of Knowledge of Animal Genetic Resources

The perennial basic information on diversity of animal genetic resources is preserved in Department of Livestock of Ministry Agriculture and Food and in Zoo Veterinary Academy of Georgia. During the last ten years there were passing an intensive working in order to research biological and immunological investigates and study characterization of new breeds. Nowadays there is not any separate coordinated effective institute, which is working on diversity of animal genetic resources. The main reason is financial problems and unique breeds are in danger. There is not any investments and programs to development this direction and now nothing is doing in this sphere.

Georgian priorities regarding capacity development for AnGR characterization are:

- 1) To start working on the creation of a central identification and registration system and data base for farm animals;
- 2) To start working on founding and organizing of breeding and farmers associations which would gradually overtake a portion of activities in AnGR identification, monitoring and characterization and actively participate in breeding and selection work;
- 3) To start establishing institutions for control of agricultural product quality;

4) To establish animal gene bank.

3.2. Information of AnGR Genetic Diversity

Breeds in Georgia are divided into:

1) ACTIVE - domestic animal breeds which are economically lucrative and are bred in sufficient number and the population size is stable;

2) ENDANGERED - breeds which are in danger of becoming extinct because their population size is smaller than the critical number; In Georgia the following species of domestic animals have been utilized in food production directly and in agriculture: cattle, horse, ass, pig, sheep, goat, hen, duck, goose, turkey. Apart from the species mentioned, fish are also used for production (in aquaculture, as well as in the open seas), bees and some farmers are starting to breed the ostrich. In the last years some locally adapted breeds have disappeared.

Consequently, the total number of domestic animals has decreased considerably, causing locally adapted breeds to suffer. Some of them have totally disappeared, while the number of others has drastically decreased and we need special measures for their survival. There are weak base of animal identification (life number, date of birth) in Georgia. The endemic breeds are more protected than locally adapted breeds.

The Caucasian nut-brown sort of cow

The Caucasian nut-brown sort of cow is taken out by the participation of Georgian cattle, Swedish and other nut-brown sorts by the Georgian scientists. The best peculiarities of this sort are the good ability of adaptation to the stern natural climatic conditions and also ability of using the alpine and crushed-stone pastures, firm hoofs, the high consistence of albumen and fat in milk.

The Caucasian nut-brown sort is the most broadly extended in the country. South Georgia all crushed-stone and descent pasture regions' cow-breeding are represented totally by this sort.

Caucasian nut-brown sort has the milk and meet direction. The grown up cows' weight is nearly 450-470 kg, dairy is 2800-3400 kg with the fatness of 3,85-3,9%.

This is the only one sort in the country, from which milk the Swiss cheese is made on the alpine pastures. The sort has the good meat productivity and meat tasty peculiarities. During the fattening the grown up gives daily 900-950 g, weight addition, at the age 18-20 month the steers weight is 460-480 kg.

In future the main growing of nut-brown sort improvement will be their pure breeding.



Georgian mountain cattle

The Georgian mountain cattle are the ancient local sorts, created by national selection, which is extended in all regions of Georgia. During the centuries it was formed many kinds in this sort of cattle by the result of isolated breeding in different parts of the country and different direction selection, which are Khevsuruli, Pshavuri, Rachuli, Adjarian, Osetian, Svanuri; They differ from each other exteriorly, also by the indicators of development and productivity. The unique peculiarity of Georgian mountain cattle is the adaptation to the stern climatic conditions and to the poor food, endurance, sustenance. This is suitable for the country which territory's more than 50% is represented by mountains and hills.

The sort is small, but it has universal productivity. The weight of grown-up cows is 200-250 kg. The dairy product in the breeding farms hesitates between 1000-1500 kg with the fatness of 4,2-4,4 in different years. In the best years from grown-up cows, which represent the sort's potential ability, is received 4000-4111 kg milk with the fatness of 4,96-5%, which is equal to the productivity indicators of the specialized high cultural sorts.

The Georgian mountain cattle are characterized by the good taste peculiarities of meat. On the pastures the grown-ups give 500-650 kg daily weight addition without additional concentrates.



Megruli
Red



Khevsuruli

Georgian buffalo

In Georgia the buffalo breeding has a long history. It's bred as in lowlands: in the river gorges of Alazani, Iori, Mtkvari, Rioni and others, so in mountainous regions at 1700-2000 meters from sea level. It's characterized by the great endurance towards the following diseases: brucellosis and foot-and-mouth disease. Remarkable diseases damage the countries' economics. Buffalos use well the grass of marshes, cane, low quality hay, on which the cows can't make productions. Buffalo breeding has the work-dairy-meat direction. Georgian buffalo are bigger than Azerbaijan, Armenian and Indian ones, but it's small than Hungarian buffalo. Female buffalo's weight is nearly 470-550 kg. By the dairy it's nearly the same as the cows local sorts. It gives 1300-1500 kg milk with nearly 7,8 % fatness. Buffalo's dairy productivity has the potential of 3000 kg. The best quality sour milk and cheese is made from buffalo's milk.



Kakheti pig

Kakheti pig is one of the oldest sorts of European origin, which was received as the result of European wild pig's domestication. Herd characterizes it instinct, it uses well the forest fruits and pastures. Its productivity is 5-6 sucking pigs. The prompt mass of the male is 100-120 kg and of female is 60-80 kg. It's extended in the mountainous zone of east Georgia, where there is a lot of food in forests. The meat of Kakheti pig is sorted out by its best taste quality. The sucking pigs are born striped like their wild ancestors. The stripes at the age of 4-5 month disappear. The pregnant pigs sometimes disappear in the forest to born their sucking pigs and after birth they return to the herd. Rarely they don't return and become wild. From immunogenetical learning of the Kakheti pig its clear, that they are alike to their wild ancestors. The same data are given by learning the construction of the cranium. Out coming from this, phenotype and genotype proves their origin directly from their wild ancestors.



Svaneti pig

Svaneti pig is extended in the high mountainous zone in west Georgia (1800-2000 meters from the sea level). It's formed in the result of the wild pig's domestication. Stern climatic conditions and poor food influenced on its development. The middle live mass of the females is 35-40 kg, and of the males 50-60 kg, productivity - 5-6 sucking pigs. By the immunogenetical learning its clear, that they are alike to their wild ancestors. The same data are given by learning the construction cranium. Out coming from this, phenotype and genotype proves their origin directly from their wild ancestors.



Georgian sheep

In Georgia the sheep breeding is historically traditional branch of animal-breeding. In the farther past (900-11000 years A.D.) the breeding of mild wool sheep was very famous in the countries of small Asia and in the west Georgia- in Kolkheti, from where they were broadly extended in the Mediterranean sea countries-mainly in Greece, Italy and Spain; The merinos sorts were taken into the west European countries from Spain. In the ancient Kolkheti the merinos sheep-breeding was developed, which is proved by the famous legend, the war of Argonauts in Kolkheti for golden fleece acquirement".

Imereti sheep

Nowadays in Georgia the unique sort of Imeretian sheep is bred. It is characterized by the expensive biological-productive peculiarities, insemination happens at the age of 5-6 months, it's much productive, represents the expensive genetic materials for the creation of the new types or sorts of sheep. It gives the extra class half rough wool and tasty meat. It is shaved 3 times during a year. The weight of the ram is 35-40 kg, the weight of females 20-30 kg. Shaved wool consists 1,8 kg and 1,2 kg, productivity 250-300 %.



Tusheti sheep

The main sort of the rough wool sheep is Tusheti sheep, which is formed in 13-14th centuries by the complicated new sort crossed method. It gives the wool of high technical peculiarities and glittering. It is characterized by the great composition of baize and transitional fiber. It is the expensive material for carpets, also of national clothes - Caucasian felt cloak. The weight of rams is 70 kg (max. 100-110 kg) and of females 45 kg (max. 90-95kg). Shaved wool is 4,5-3,0 kg. The length of wool is 20-25 cm. The shaved wool of lamb is till 1,3 kg. Productivity is 110%, dairy till 90 kg. This sheep is bred in Transcaucasia and in north Caucasian regions. From Tusheti sheep was formed two new sorts of sheep: Georgian half mild wool and mild wool fattaily sorts. This proves that the coalescence of similar wool and fattaily sheep happened firstly in the world.



Georgian mild wool fattaily sheep

Crossing of Tusheti females to the Caucasian mild wool sort rams forms this sort. The wool is similar, white, the length of 8-10 cm, and the mildness 60-64. The quality production indicator is the same level, as of the half mild wool sort sheep.



Georgian half mild wool sheep

Crossing of Tusheti females to other sorts of ram forms this sort. The live mass of rams is 85 kg (max. 115 kg) of females 50 kg (max. 90 kg). Shaved wool is 3,5 and 5 kg. The length of the wool is 15 cm, crossbreeding, 50-56 with the mildness of qualities, dairy and productivity from mother level.



Megruli goat

In west Georgia two types of Megruli goat with dairy direction are bred: lowland and mountain goats. The live mass of the female mountainous goat is 40-45 kg (max. 50-60 kg), of males 50-55 kg (max. 70-90 kg).

Lowland type goat is small but it's characterized by much more dairy. During a year it gives nearly 300-400 kg milk by keeping in the pasture conditions during 6-8 month lactation, but the best of them gives 800 kg milk with the 4% fatness. Productivity is nearly 120%. It's characterized by the firm consistention, the hair is short, and it's rough without baize, white or light gray, it's horny.



Paked neck hens

Paked neck hens as the mutation is famous from the ancient times. The scientists' research shows that this peculiarity is dominant and goes to the generation. Paked neck hen's motherland is Romania. In Georgia its bred from the ancient times, it's called "Kitaia" in west Georgia. It's supposed that it's taken from China and the name comes from that. Its annual laying eggs are 186. The mass of the egg is 60 g, chicken hatching is 85 %, keeping 94,8 %, female hens live mass is 2,8 kg, of cocks' 3,7 kg, the meat is of high quality.



Straw-coloured hens

This sort is mainly bred in west Georgia. It is characterized by the live mass in females 2,6 kg, in cocks 3,8 kg, with the egg mass 62 g. It has the rosy eggshell. The egg is characterized by long keeping (2 weeks), by dense shell (0,336mkm), with 85% of hatching, egg laying is 161 during a year.



Megrula hens

This sort has striped down. It is characterized by the endurance to the local conditions and towards the different diseases. It's annual egg laying is 163. The egg is cream, the mass 57,5 g, the thickness of the egg shell is 0,326 mk. The indicator of hatching is 79,5 %, of keeping 96,3 % and it is characterized by the long cycle. The egg laying two cycles are almost the equal, during the second cycle egg laying is 161,5.



Georgian straw-coloured turkey

Georgian straw-colored turkey has a wide body, a small head, a wide deep and pulled breast, a wide back, a long tail, a strong feet, colour reddish or rosy, straw-coloured down. The weight of male turkey is 12 kg, and of female 6 kg. Egg laying is 80-100, the egg mass 80 g. The shell brownish-reddish, hatching 75%. Sexual maturity begins at the age of 8-10 months.



Javakheti goose

Javakheti goose is originated from the wild gray goose, which dwells in the areas of Javakheti. Its characterized by the following down colours: white 18-20%, motley 57-58%. The characteristics are the colour of eye and beak. The white goose has blue eyes and orange beak; Motley goose has dark gray eyes and light orange beak, but gray



Javakheti gray goose

Javakheti
gray goose



goose has brown eyes, grayish spotty beak. The live mass of goose is: of females 3,5-4 kg, of males 4-5kg. In the conditions of intensifying feeding the mass grows much more. Egg laying 8-15, after selection it goes from 15-20 till 25-27 during 5 years. The male goose matches with 2-3 females and doesn't let other male to them. First year 50-60% of males, but the second and third years 95-100% of them express this instinct. This goose has highest quality down. The consistence of the down is nearly 30-35%.



Javakheti
motley goose



The horse sorts spread in Georgia

Tusheti horse

This sort is used in the mountain conditions, especially in nomadic animal breeding, as the sitting-loading cattle, but in lowland zone, in plain conditions the works performed by horses are diverse. Tusheti horse is short, it has firm endurance and doesn't demand much care and special feeding, but it has the quick reaction to the conditions of better feeding and care-keeping. Its sizes are: 134X138X169 cm, colour is dark, and we meet also blue and honey colours. It finishes the growing and developing at the age of 5 years. It has the ability of long live. It is used in the national kinds of horse sport and in the horse tourism. The main region of Tusheti horses modern spreading is east Georgia.



Megruli horse

The breeding of Megruli horse sort was going from ancient times in herd conditions, mainly in high moisture lowland zone of Georgia's Black Sea Coast. It was formed not only with the help of black sea coast natural-climatic conditions, but also with the help of Kolkhuri horse. It is the direct descendant of the Kolkhuri horse. Megruli horse is spread almost in all regions of Georgia. Its direction is sitting loading. In Transcaucasian countries Megruli horse is the smallest between the bred horse sorts. Its sizes are: 129,6X130,5X145X16 cm. It is characterized by the dry and dense constitution. It is mainly of dark colour. The best peculiarities: good ability of adaptation to the local natural-climatic conditions, also the brood possibility of using it on different agricultural works.



Javakheti harness horse

This sort of horses is received by crossing the Crimea and Doni mares to the Russian working horse. Since 1938 the remarked livestock was crossed with the Arden, Brabanson, deparsheeron sorts of male horses. Since 50s the breeding of crossed livestock is going.

Javakheti harness horse is characterized by light steps, good trot, vigorous temper, it is obedient and endures the hard work; it is colour is mainly dark. The sizes are: 141X147X171X20,5 cm.



Donkey



♀ Horse X ♂ Donkey

♀ Donkey X ♂ Horse



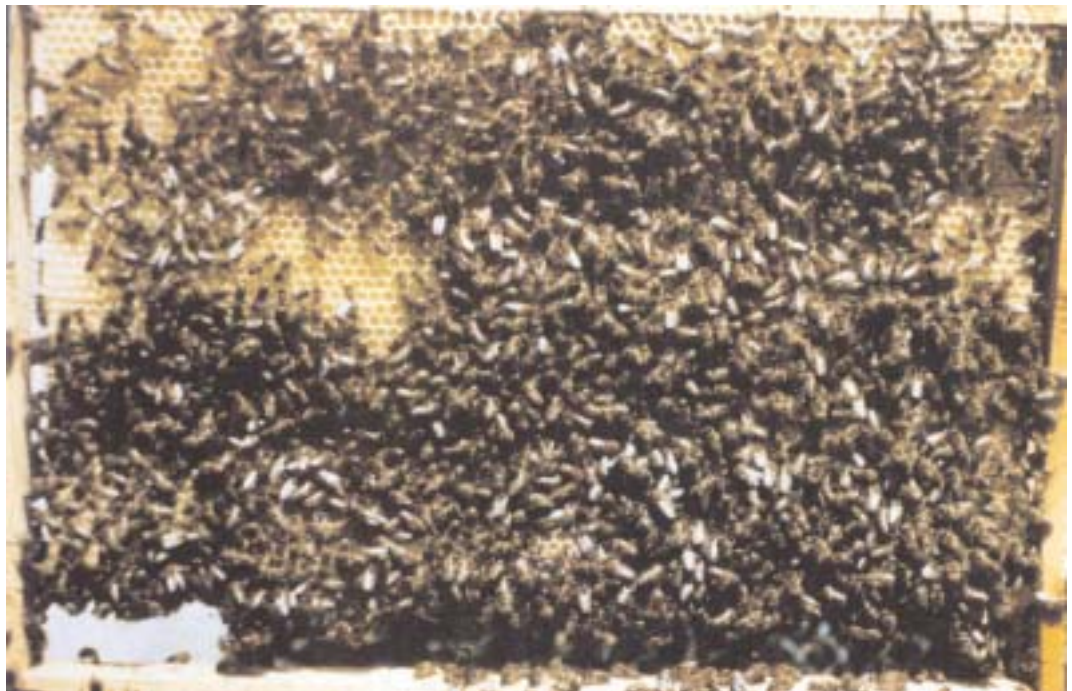
Georgian bee selection

Georgian bee is famous in the whole world by the name of Caucasian mountainous gray bee. This is the pure Georgian sort, which began its extension at the beginning of the current century in the world. It was specially extended on the territory of ex-USSR, but its extension area was limited, because of less winter endurance, low egg laying and the sensitiveness towards „Manana“ honey. Although in USA the Caucasian bee composes almost 1/3 of the whole bee livestock.

In Georgia it is represented by 3 main population: Abkhazian, Megruli and Kartluri. These populations differ from each other enough by the biological and economical indicators.

Megruli population

It is most widely spread population and is characterized by the length of trunk (not less than 7,1 mm), comparatively low egg laying. We meet this population mainly out of Georgia. In difference with other bees it pollinates successfully the deep wreath tube flowers of trefoil with the help of its long trunk.



Abkhazian population

Its characteristics are comparatively short trunk, good winter endurance, the economical use of food and small quantity death in the period of winter.

Kartluri population

It endures the long winter well. It is characterized by comparatively high egg laying. This population is famous by the high activity of the back gut catalysis. This bee is suitable for giving crossed generation, which would have the better endurance during the long winter.



Some of the fish spread in Georgia

The fresh water fish occupy an important place in Georgian diverse fauna. We almost haven't summed up information about them.

In Georgia the following fish are extended:

Black Sea sturgeon

It is expensive craft fish. Caviare and canned food are made from it.
The highest quality glue is made from it is swimming bubble.



Black sea salmon

expensive craft fish.



Rainbow trout

expensive craft pool fish. It is used raw.



Trout -

expensive craft fish.



Sheat-fish -

is good craft fish. It has the fat (4-11%) tasty meat; it is possible to organize sheat-fish pools.



Priorities in capacity development in order to improve understanding of the AnGR diversity:

1) to specialize scientists and faculty professors in order to improve understanding of the significance of AnGR diversity, as they transfer their knowledge to students;

2) to specialize state officials and local government officials regarding the significance of AnGR diversity for the local community and rural development on the whole;

3) to review curricula - to introduce units about the significance of AnGR genetic diversity (on all levels of education, from primary schools to faculties);

4) to utilize electronic media and publications - to pay more attention to AnGR in educational, scientific and popular programmes on the Georgian television; to create mature, objective and responsible public opinion on the AnGR diversity; to improve understanding of AnGR in wider public and among all participants in animal production;

5) to utilize special promotional materials with animal photographs - calendars, stamps, telephone cards, videos, posters, etc.

4. THE STATE OF UTILIZATION OF AnGR

4.1. Policy and Legal Instruments Regarding the Utilization of AnGR

According to the Georgian government policy agriculture is strategic branch of Georgian economy. Although the importance of livestock production in the overall agricultural production is indisputable, these development strategies livestock-breeding still does not hold the position that it deserves. Our aim is to have a new strategy which encompasses agriculture and livestock production. This strategy will be increase of some key products (milk, beef and pork).

Georgian Government and Ministry of Agriculture and Food work on a particular normative base in order to create Livestock-Breeding Act. The true strategy and acts should create suppositions for restructuring of Georgian agriculture and increase production (especially of such products for which self-sufficiency is extremely low) and product quality.

4.2. The state of use of AnGR

In spite of that agriculture is one of the priority branch in Georgia financial problems have prevented from development of animal genet-

ic resources. Practically there are not import production in Georgia and our production are not corresponding to European standards.

4.3. The state of capacity to use AnGR

Family farms which deal with livestock-breeding in Georgia are small and lack capital and cannot pay for all technical, specialist and training services. All institutions which deal with the improvement of AnGR belong to the state sector. These sectors are without function and the main reason is financial problems. The farmers activities in order to regulate of AnGr are chaotic. It is necessary to pay greater attention to the institutionalized assistance to family farms and at the same time assist and stimulate the organization of association of farmers interested in production and breeds.

Governmental institution must has a consultative role, to improve cooperation and to participate in the implementation of measures of assistance to family farms. They must participate in research projects conducted on farms and coordinated by the Counsel for Agricultural Research.

Governmental institution must primarily deal with breeding and selection work for all sorts of domestic animals and central information system must establish in this institution for all domestic (farm) animals.

It is necessary to conduct identification and registration of animals. It is also necessary to conduct identification, registration and control of endangered breeds. The main activity is create 1 or 2 European standards man-made fecundation stations.

4.4 The state of utilization of AnGR

The main problems which constrain further development of AnGR are:

- small populations of particular breeds,
- lack of sub- legislation (guidelines) for particular segments of breeding programmes in some animal species,
- only phenotypical selection for majority of breeds.

Fundamental principles of sustainable breeding such as:

- improvement of product quality, health and welfare of animals,
- improvement of production and economic efficiency,
- maintenance of biological diversity and improvement of adaptability to diverse environmental conditions,
- decrease of pollution by improvement of efficiency of food use, are not sufficiently included into breeding programmes.

4.5. Obstacles, Opportunities, and Needs for Use and Development of AnGr

Regardless of extremely favourable conditions for animal production, Georgia is still insufficient for majority of animal products, as it does not use its comparative advantages to the full. There are numerous opportunities for production increase, but despite the recognition of major problems and limiting factors, there have been no significant improvements.

5. THE STATE OF THE CONSERVATION OF AnGR

Georgia has relatively, recently started activities regarding conservation of genetic diversity of animal resources, but the main problem is that we have not any Individual protection programmes and we also do not have a generally accepted integral programme for active management of animal genetic resources. We want to create a National Counselling Committee, which should be coordinated to create national programme for the protection of diversity of animal genetic resources. It is necessary to create a financial strategy which should be financed selectioners in order to do registration and identification of animals. For the time being there is no special financing state programme for protection.

Unfortunately, conservation and protection are expensive and financial means are inadequate for the overall implementation of these programmes and the priorities are chosen according to the following criteria:

1. endangerment, 2. important economic characteristics, 3. agro-ecological importance in special landscape, 4. genetic uniqueness 5. characteristics important for scientific research, 6. cultural and historical value.

Criteria have been mentioned here in the order of priority. Breeds satisfying more than one criteria should have priority. According to the extant criteria (FAO) at the moment in Georgia there are 20 endangered breeds of domestic animals. The endangerment status is shown here only for locally adapted animals. According to new criteria there are 3 endangered breeds of horses, 4 of cattle, 3 of sheep, 1 goat, 4 of pigs and 5 of poultry. For the time being the sperm of a smaller number of studs is preserved in liquid nitrogen, and it is planned (in case financial means are provided) to conserve oocytes and embryos.

Priorities regarding increase in capacities for the development and implementation of conservation programmes would be:

- provision of long-term financing of the conservation programme;
- establishment of Gene Bank for AnGR.

6. THE STATE OF POLICY DEVELOPMENT AND INSTITUTIONAL ARRANGEMENTS FOR AnGR

Domestic animal breeding in Georgia has a great significance, especially in the part related to breeds used in the conventional livestock production. Livestock breeding is the most important branch of agricultural production which provides for a great number of inhabitants and therefore can justly hold such a significance in domestic animal breeding. It is necessary to pay attention to protection of authentic and protected breeds.

6.1. Organization of Domestic Animal Breeding

Organized domestic animal breeding started in Georgia at the beginning of 20th century. In Soviet Union period breeding of domestic animal has developed, but from 1990 year this activities has ceased. Today Domestic Animal Breeding is established in all cases without any specific breeding programmes for particular species and breeds of domestic animals. We are working in order to create with European associations specific programmse which should be ratified by the state and should have a legal basis. In Georgia breeding activities are financed by state simbolocally and it is only limited for employee salary. Immediately financing the jobs of genetic development the state provides financial resources to stimulate breeders to become active participants. A special incentive is in the implementation of protection of authentic and protected breeds, which regarding their production characteristics cannot be competitive with contemporary breeds today. For these breeds it is necessary to have breeding programmes which determine the way how to implement their protection, as well as breeding targets which are considerably different from breeding targets of conventional breeds. Specialized and scientific institutions should be participated in the implementation of domestic animal breeding in the country. In Georgia there are centers for artificial insemination and testing clinics, but they are without work and our aim is to create a centre which should be coordinated activization these centers and clinics and would create a work positions (vacancies).

6.2. Organization of Breeders in the Implementation of Domestic Animal Breeding

Animal holders, breeders should be partially associated into breeding associations or federations which should be provided and developed special programmes.

6.3. Genetic Resources in Georgia

In conventional production in Georgia mostly those animal breeds with high profitability are used. These are primarily breeds which can be found in a great number of livestock-breeding developed countries. They are mostly imported breeds some of which were imported in the 19th century and majority in the 20th. Nevertheless, even today in the majority of cases there is a close breeding connection where by sperm or livestock heads procurement these genomes are included into our population. In this way, we strive to provide our genome of a good quality, especially because Georgia cannot attain the breeding objective it desires regarding number of heads of particular breeds by itself. Keeping all this in mind one can say that for smaller populations which we can find in Georgia it is justified to maintain constant breeding connection with other breedings as this should be created conditions for the achievement of a more profitable animal-breeding production. We would like to take care about conservation of genetic diversity of animals, in the part related to the real implementation of conservation of authentic and protected breeds as well as in the part of maintenance of the extant variability of conventional breeds as much as possible.

6.4. Organizational Relatedness in the Implementation of Domestic-Animal Breeding

In Georgia in the next period the methods of implementation of genetic development and conservation of formed genetic resources should be revived and improved. We have not any Computer technology or equipment in order to processing of all breeding data.

6.5. Breeding of Domestic Animal

There are some stations for artificial insemination in Georgia which are without activities and insemination does not increase in Georgia.

6.6. Legislative Foundation for the Implementation of Domestic Animal-Breeding

In Georgia all regions related to AnGR are not legislatively regulated. Veterinary Act provides for healthy aspect of maintenance and use of domestic animals; among other things it provides for quarantine conditions in import of live animals or genetic material (sperm and embryo). Conditions for import of animals and genetic materials are adjusted to regulations of World Veterinary Organization and do not cause difficulties in import. Animal-Breeding product quality assigned to human food is regulated with several laws depending on the aspect observed.

6.7. Cooperation of Georgia with other countries and organizations in the Implementation of Domestic Animal-Breeding

Georgia as a country with small populations is oriented to cooperation with other countries in order to improve genetic development. These relations are, on the one hand, related to purchasing of livestock or genetic material (sperm) but also professional cooperation with other countries and international institutions dealing with livestock-breeding and use of domestic animals.

6.8. Research and Education in Domestic Animal Breeding

Research in the field of AnGR is conducted by scientific institution, such as ZooVeterinary Academy. Students have a possibility to acquire knowledge necessary for adequate engagement in animal-breeding it would be of interest to reform education in the future and create even better conditions which would provide an opportunity to acquire greater knowledge, especially in the part related to the organization of breeding and production on family farms which today represent fundamental production units in livestock-breeding in Georgia. Special emphasis should be given to improved organization of scientific and research work and better connections with scientific institutions of other developed countries.