

*“Talking won’t  
strive the hunger.”*

Moldovan proverb

## 5.6. Food Security

The problem of food security is affected by all sorts of social and economic problems, by the situation in the agricultural sector and food market, and also by external economic factors. Thus the solution to the problem of food security affects the economic, political, and social spheres of the state. In fact, there is here a convergence of many directions of economic reforms, economic security and human development.

At the Rome 1996 world summit for food problems, the main criteria for possible remedies were outlined with application at the world, regional and national levels. The basic assumption which underlay discussion was that global food security is determined by the balance between world production and world consumption of food, i.e., by the balance between supply and demand, realized in functioning national, regional and world food markets.

*National food security* is related, as a rule, to the concept of self-sufficiency regarding main foodstuffs, and is seen as an important element in a country’s economic security. Naturally, it may concern only those countries that have a satisfactory agricultural potential and are able to maintain supplies through the establishment of suitable economic conditions. National food security takes into consideration the following integral elements:

- A determination of the country’s level of self-sufficiency in supplies of foods and of indispensable imports;
- The institution of some economic policy measures in support of domestic agriculture, including against competition. These measures may be systematic or emergency in na-

ture if conditions of large foreign trade imbalances exist. The support of domestic agriculture occurs for several reasons: to ensure food security and independence as important elements of state sovereignty, to support the foreign trade balance and the balance of payments, and to maintain agricultural employment;

- The establishment of a system of temporary and permanent stocks of products, especially of grain. These reserves are used for price regulation, supply intervention inside the country and mitigation of production fluctuations as well as for stabilization of foreign trade.

*Food security at the level of social groups, families and individuals.* The point of establishing a secure supply of foodstuffs is to ensure access of social groups, families and individuals to foodstuffs. At this level, the notion of food security moves from the sphere of politics and economy towards the sphere of social and moral criteria because it is concerned with human existence and the liquidation and prevention of hunger and malnutrition.

Since the early ‘nineties there has been an essential decline in the agricultural potential of the countries in Central and Eastern Europe, including Moldova, where the level of production of agricultural products has dropped by more than 40%. In fact, the world foodstuffs situation is undermined by this region which has a considerable import market. These countries remind at a certain degree the model of development of the countries of the third world.

Food provision has worsened considerably in a majority of these countries. The decline of living standards has led to an increased expenditure for food

Table 5.6.1.

**Production of the Main Agricultural Foodstuffs on Average per Capita in the Republic of Moldova, kg**

	1990	1994	1995	1996	1997	1998
Cereals and vegetable grains	581	438	663	506	870	684
Sugar-beet (industrial)	544	390	532	502	479	398
Sunflower	58	37	56	77	48	55
Potatoes	68	117	106	95	107	102
Vegetables	270	127	135	89	97	137
Fruits	206	169	147	145	259	101
Grapes	215	175	236	213	82	94
Meat	84	36	33	32	31	28
Milk	346	226	211	189	169	167
Eggs (pieces)	259	116	132	146	140	148

Source: DSAS (1990 — entire republic, 1994-1998 — without Transnistria)

in the family budget. However, the average consumption of calories per capita has dropped. Thus, even with the mobilization of family budgets for acquiring foodstuffs, food consumption levels are dropping (see tables 5.6.1 and 5.6.2).

In crisis conditions and while restructuring the agricultural sector in Moldova, the production and deliveries of food have fallen in the domestic market.

According to the FAO, food sufficiency in countries with transitional

economies is aggravated by the fact that it is not compensated by social maintenance. This situation is considered relatively temporary by the FAO: a recovery is expected after passing through the lowest level of production and consumption. According to predictions, the region of Central and Eastern Europe will reach the previous level of food sufficiency by 2010.

The reduction of per capita agricultural production in Moldova has considerably limited foodstuffs sufficiency. It emphasizes the difficulty the

Tabelul 5.6.2

**Food Consumption per Capita in Moldova**

Products	1990	1994	1995	1996	1997	1998
Meat and meat products (kg)	58	30	23	25	25	23
Milk and dairy products (kg)	303	163	165	161	154	148
Eggs (pcs.)	203	100	107	116	121	114
Fish and products of fish (kg)	12,0	1,4	2	3,5	3	2,2
Sugar (kg)	48,9	22,3	21	22,5	18	15,6
Oil (l)	14,1	8,0	8	8,2	6,5	6,2
Potatoes (kg)	69	84	68	71	69	64
Vegetables (kg)	112	78	86	65	70	74
Fruits, berries and grapes (kg)	79	68	60	59	80	54
Grains (bread, macaroni, flour, cereals) (kg)	171	139	135	127	127	129

Source: Statistical Yearbook of the Republic of Moldova, 1997. Data for 1998 from CISR calculations

majority of population has obtaining enough food. In 1997-1998 this tendency became considerably more acute.

The structure and quality of nutrition has changed. The consumption of products of animal origin has largely decreased (meat, milk, eggs). This aggravates the quality of nutrition. The FAO has worked out several criteria for determining the low level of consumption. If consumption per capita falls lower than this level, the country as a whole, or this social group is considered to be unfortunate from the point of view of foodstuffs consumption. According to the FAO, such a situation appears when the level of nutrition is less than the level that provides for basic metabolism. For countries with hot climates this level is 2100 calories. The FAO recommends an increase in this level to 2700 calories a day. The minimal level of food consumption should satisfy the necessary in albumen, vitamins and microelements. It requires the corresponding level of consumption of main foodstuffs by their total volume and by structure of nutrition as well.

Naturally, satisfaction of needs in foodstuffs depends first of all on levels of income and its distribution between different social groups. In Moldova before 1990 the traditional correlation of monetary incomes between the high and low 10% income groups was equal to 4:1. Currently this correlation is equal to 37:1. The process of market transformation led to a considerable polarization of distribution in monetary income. Besides, total reduction of the average money income took place. As a result there is a decline of food consumption by a large part of the population. According to CISR estimates, based on a household budgets survey, in 1998, less than 10% of the population (the most well-to-do categories) could maintain the level of nutrition of

1990. However, at the same time, nearly 10% of population consumed less than 1500 calories. This level is recognized by the FAO as extreme malnutrition. The average consumption per capita in the Republic of Moldova is at 1980 calories, while the FAO threshold is at 2500 calories.

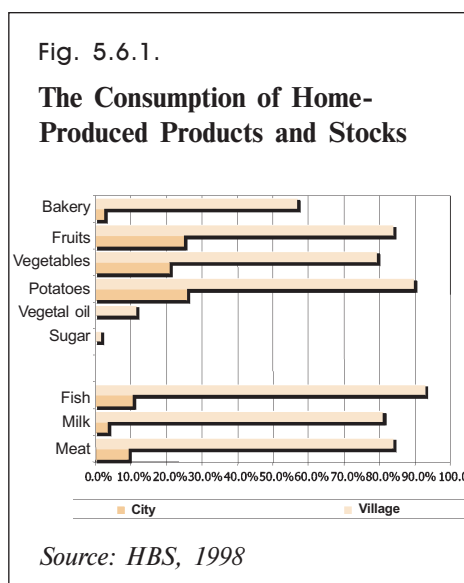
Although the energy value (calorie content) of products is an important characteristic, it doesn't provide information on the quality of nutrition. According to FAO recommendations, the correlation of consumed albumen, fat, and carbonhydrates should be (1:1:4). In Moldova it currently registers 1:1.2:5.2.

The main problem of nutrition lies with poor families. According to some investigations, the share of expenditures for food in family budgets of the poorest ten per cent was 88.6%, while that for the richest ten per cent was 46.0%, the average being 64.4%. This structure of family budgets of the poor family is clearly seen, the main part of their consumer spending being bread and vegetables. The contrasts are considerable: the consumption (in natural terms) of meat per capita in the first and tenth decile (in terms of disposable incomes) differs by 6.6 times, of fish by 5.3 times, of fruits by 4.4 times, of sugar by 3.9 times, of milk and dairy products by 3.4 times, of bread and bakery products by 2.0 times. The worsening nutrition is, evidently, the most painful result of the social and economic crisis which in Moldova has led to a decline in per capita income to the level of developing countries. Food shortages causes an aggravation of public health problems, increasing the rate of illness and death, the spread of "social" illnesses (such as tuberculosis) and, as a result, the weakening of human potential.

The decline of incomes, unfortunately, takes place in conditions of an

ineffective system of social protection. Self-salvation, private initiative regarding food security, is a new reality of the transitional period. The individually held plot appears to be a factor of social security for many families.

Average area of the plots used for agricultural product, is 684 m<sup>2</sup> in a city, but in a village 4612 m<sup>2</sup>. The bigger part of household expenditures is formed by the expenditures for food - 64.4% (in urban zone-56.4%, in rural zone —71.1%). Such a high rate of this index testifies to the poverty of population and their use of the larger part of their income to satisfy primary needs. The use of stocks and household products represents a considerable part of consumption in a city and the main part in a village. (Figure 5.6.1 provides data on consumption of household products and stocks). . The home production of foodstuffs compensates for the low purchasing power of the population.



It's worth mentioning that not all the population of Moldova has access to the main foodstuffs at any time, economically or physically. The problem is a considerable decrease of purchasing power. It is confirmed by the decline of purchasing of foodstuffs in retail trade.

Table 5.6.3

**The Average Purchase of Foodstuffs per Capita per Year in Retail Trade, kg**

	1995	1996	1997	1998	1998 in % over 1997
Meat and meat prod.	1,7	2,9	2,6	2,4	92,3
Fish and fish prod.	0,47	0,84	0,62	0,57	91,9
Butter	0,33	0,34	0,2	0,19	95
Oil	0,63	0,93	0,81	0,79	97,5
Milk and dairy prod.	6,2	5,3	4	3,6	90
Eggs, pieces	10,3	44,4	41,1	40,4	98,2
Sugar	1,9	3,7	6	5,4	90
Bread and bakeries	42,1	39,7	36,5	36,7	100,5
Cereals and legumes	2,4	2,5	1,9	1,7	89,5
Potatoes	2,2	2,8	2	1,9	95
Vegetables	3,4	3,4	3,5	3,4	97,1
Fruits and grapes	1,9	5,7	7,7	6,7	87

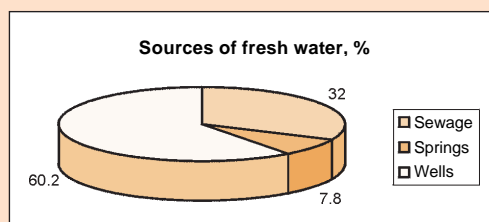
Source: DSAS data

Food security of the country, apart from increasing the productivity of the agricultural sector and the purchasing power of the population, includes also protection of domestic consumers from poor, falsified or outdated imported products. The quality of many imports is lower than the quality of domestic ones. Thus it is necessary to control and to protect the

#### Box 5.6.1

#### Fresh Water Supply

A fresh water supply for the population is an important element of economic security. Being a part of vital human needs, access to safe water has a crucial impact on human development. Fresh water resources are very limited in Moldova and account for about 3.8 cubic meters. Their annual regeneration level is at 11%, which is not enough for a sustainable maintenance of an aquatic resources cycle. Taking into account the fact that Moldova has frequent droughts, the debit of aquatic resources is considerably reduced, this having a negative impact on water consumption in general. The degree of fresh water provisioning is not uniform but depends on the territory: average debit is significantly decreases from North to South, presently making up a 1:3 proportion.



Average daily consumption of fresh water per individual in Moldova is 163 liters, which is less than in the majority of Central and South European countries (255 l/person), and it is far behind the level in Western countries (300 l/person). It should be noted that in many settlements in the south of Moldova this indicator does not exceed 20 l/person.

Well water is the main source of safe water supplies for the population in Moldova. An average figure for Moldova shows that almost two-thirds of the population uses this source of water. Although in urban areas the share of wells in water supply is smaller (14.4%), still they hold second place in providing fresh water daily. At the same time, 35% of population has access to fresh water only from wells.

The well phenomenon in Moldova exposes the water quality easily to the danger of pollution. Only 30% of aquatic resources correspond to national standards. For this reason about 42% of population considers that the bad quality of fresh water directly affects their health and causes different diseases. Therefore, a tri-dimensional problem must be solved regarding the fresh water supply for the population: (i) rational usage of water resources; (ii) efficient management of water regeneration and maintenance; (iii) improvement of fresh water quality.

Source: HBS, 1998

Moldavan market from low-quality imported products. However, some countries have decided to apply measures to protect their domestic agriculture. Taking in consideration the leading position of the agro-industrial complex in the national economy of Moldova, and also the important role of agriculture in food security of the population, evidently, it's reasonable to stipulate such actions also for the Republic of Moldova.

#### 5.7. Ecological Security

The distinguishing features of environmental problems persist in the Republic of Moldova — natural resources and ecological balance are determined by a high degree of land development, a high population density and an excessive burden on the natural environment.

**Natural resources.** Natural resources represent an important component of the national property. Their usage largely determines environmental conditions: the depletion rates and extent (depreciation and deterioration), the condition of resources, as well as qualitative environmental factors. In the context of economic security, the Republic of Moldova has adequate land and climatic resources which represent a valuable recoverable potential ensuring sustainable development of a highly efficient agriculture. In terms of non-recoverable natural resources, such as construction materials or raw materials for their manufacturing, they are, with few exceptions, of local importance. The lack of energy resources, also inherent in other southeastern European countries, constrains the diversification of economic and consumption activities, which require an adequate economic policy.

*Water resources* of the Republic of Moldova comprise the internal water supplies, such as border rivers — Nistru and Prut — and underground water reserves. The average multi-annual water stock is estimated at 13.2 billion cm, being unevenly spread in time and territory. This is an average theoretical resource under the natural surface waters environment. The Nistru covers 77-80% of these resources.

The underground water stock is estimated at about 2.8 billion cubic meters. The theoretical water potential is about 16 billion cubic meters, meaning 3700 cubic meters /inhabitant.

The usable capacity is about 1100 cubic meters /inhabitant, and this puts Moldova in line with countries with relatively poor water resources, after Romania (1800 cubic meters/inhabitant per year), after such countries as France, Italy (3000-5000 cubic meters/inhabitant per year), Austria, Switzerland (5000-10000 cubic meters/inhabitant per year), Finland, Norway (over 20000 cubic meters/inhabitant per year). The usable water potential (in natural mode), ensured for drought years, is declining to 10.5-7.5 bn cubic meters.

Water management in the Republic of Moldova is still deficient and not balanced. It therefore fails to address the new problem of resource allocation and the efficiency of water ecosystems protection facilities. Great losses occur in distribution networks within urban localities and irrigation systems.

Water was considered as an unlimited resource having no economic value. Significant efforts have been taken to find and use the sources of water, but not for ensuring their quantitative and qualitative regeneration. However, maintenance of a sustainable regeneration capacity of water reserves needs a different approach towards their management. Thus, the main treaty of the EU stipulates inte-

gral management of water resources (surface and underground) in hydrographic basins. In the Republic of Moldova these principles are not enforced yet. The local legislation has not been harmonised with international norms. Legal relationships with neighbouring countries are not settled. Economic mechanisms are obsolete and inefficient for motivational reshaping of consumers' behaviour.

**Land and soil** resources are as important as are the water resources. The land fund of the Republic of Moldova, as of the end of 1998, was 33.8 thousand square km, being distributed by use as follows: agricultural land — 75.5%, forests and other woodlands — 12.5%, other categories of land. In the structure of agricultural land, the proportion of arable land is 70.5% or 53.5% of the total land. Perennials, mainly orchards and vineyards which are regularly exposed to mechanized operations and chemical treatment, make up 4.5% of agricultural land. The land areas which are intensively worked make up about two-thirds of the total country's area and 85.3% of the agricultural land. The pastures account for 14.7% of agricultural land.

Over the period of transition to a market economy, the reforms have caused a significant change in the distribution of land to landowners, as follows:

It is well known that the reduction of agricultural land, especially, that of arable land, poses a global threat. Yet, an excessive expansion of arable land at the

*“When you drink water, thing about the well.”*

**Moldovan proverb**

Table 5.7.1.

**Surface Water Resources in the Republic of Moldova**

Rivers' hydrographic basin	Annual debit km <sup>3</sup>			
	Average stock	Total		Including tributaries of interior rivers
		Drought years	Average stock	Drought years
		75%	95%	
Nistru	10,2	8,08	5,7	0,63
Prut	2,9	2,38	1,83	0,28
Cahul	0,11	0,05	0,01	0,11
Total for Moldova	13,21	10,51	7,54	1,02
				0,59
				0,26

Source: data from Ministry of Environment of the Republic of Moldova

expense of other categories of land (like forests), combined with the application of intensive technologies, causes soil erosion. According to some estimates, in order to maintain a minimum level of food

The experience of some developed countries shows that it is possible to recover the regenerative ability of the soil. A new approach in the agriculture focused on the development of technologies appropriate for the natural environment may provide sustainable efficiency and even reduce production costs.

**Forests** of the country cannot be viewed as forest resources of direct economic importance, nor as sources of wooden raw material. The size, quality and geographic placement of forests are also not consistent with the ecological infrastructure requirements. They are the remainders of Codru from the past centuries. The current areas are either significantly affected by former selective deforestation, or they entirely have a recent anthropological origin. Over the last 40-50 years, about one third of the forest land was normally planted with species belonging to eco-systems of other countries and continents (acacia, birch tree, pine, fir trees, etc.), what makes these forests less efficient from the ecological standpoint, less suitable habitation for living, more vulnerable and non-viable species. The costs for the upkeep and regeneration of such forests, estimated on a long-term basis, are normally higher.

The breakdown of forests by species is the following: 47.6% oak, 31.8% beech, and 20.6% - all other species.

According to Land Cadaster data the forest fund area takes up 394.7 thousand hectares (including 325.4 thousand hectares of forest, the degree of the country's forestation is estimated at 9.6%), covering 800 forest tracts, with an area ranging from 5 to 1500 hectares, being unevenly spread across the country. According to the law, forests are the state's property. About 89% of this area is controlled by the state specialized institution "Moldsilva". The rest of the forest land (in small sectors) is controlled by the local public administrative institutions, and agricultural, industrial, transportation, and business entities, etc.

**Biodiversity and protected areas.** Situated in the marginal zone of three re-

Table 5.7.2

**Land Allocation by Owners (at Year's End), Thousand ha**

Owners:	Years			
	1991	1995	1997	1998
Total land	3376,0	3385,3	3384,4	3384,4
Agricultural land	2537,7	2032,6	1994,4	1980,9
Settlements	400,8	441,7	441,7	449,0
Reserve Fund*	466,6	462,5	487,0	498,4
Industrial enterprises and other sectors	77,6	58,4	58,3	58,4
Forest land, and environment protection	325,0	344,1	350,6	350,4
Waters	26,0	46,0	47,0	47,3

\* Fields designed for social development of settlements and for general use (pastures etc.)

Source: DSAS

per person on the globe, on average, 0.6 ha of arable land is required. Under the conditions obtaining in the European Union, it has been estimated that in order to ensure food security, a minimum 0.15 ha of arable land per inhabitant is required. In the Republic of Moldova for each inhabitant there is 0.41 ha of arable land.

The reproductive capacity of soil fertility and its ecological quality are gravely affected by extensive agricultural operations based on intensive technologies and excessive use of chemical fertilizers, pesticides and herbicides.

The economic and energy crisis, the status of agricultural reforms combined with the emergence of many owners who lack necessary equipment and special knowledge, the persistence of old technological schemes along with a considerable reduction of fertilizers (organic and mineral), the disorder persisting in irrigation systems were conducive not only to a dramatic decline in the output, but also to a higher degree of soil depreciation.

gions of flora (East-European forest, East-European stepp, Mediterranean forest stepp) and the region of fauna stretching from the Asian continental stepp through the European forest stepp, the Republic of Moldova has a very vulnerable biological diversity. Estimates show that natural ecosystems take up no more than 20% of the territory, and are very fragmented and degraded. The vital potential of forest ecosystems is weak, including 172 species of terrestrial vertebrates and 859 species of flora, out of which 40% have been brought from other regions. From stepp ecosystems only small fragments remain, including 55 flora species and 109 species of vertebrate animals. Natural meadow ecosystems take up 1.5% of territory, but have a relatively rich diversity.

The Red Book of the Republic of Moldova includes 241 species of flora and fauna. Specialists consider that the number of rare and endangered species, which should be included in the Red Book, reaches 600. The extent of protected areas constitutes 1.7% of the country's territory, being one of the smallest among European countries (Ukraine 3%, France 7%, Germany 13%, Austria 25%, etc.). The national network has 12 categories of protected areas: 5 scientific reservations (19.4 thousand ha), 130 monuments of nature, 63 natural reservations, 41 landscape reservations, many geological, paleontological, and hydrological monuments among others.

### **The Overall Quality of Environment in the Republic of Moldova.**

Viable human development is inconceivable unless there is a healthy environment. The environmental condition in the Republic of Moldova, as well as in other countries, is adversely affected by economic activities, by inadequate use of natural resources, outdated natural and technical infrastructure and by cross-border pollution.

**Air quality.** Overall, on the territory of the Republic of Moldova, the amount of pollutants released into the atmosphere

was estimated at 273 thousand tons. Its ratio to the number inhabitants is lower than that in neighbouring countries, currently being 64 kg/inhabitant /year (1998). The sharp decline in industrial output during the period of transition along with the increase in the number of motor cars changed the nature of released pollutants as compared to the '80s. In 1998, the proportion of mobile sources of pollution exceeded the average percentage on the globe (60%), reaching 83% (226.4 thousand tons). The proportion held by transportation in the city pollution reaches 92% for Chişinău, 95% - Bălţi, 96% - Cahul, etc.

Permanent sources make up 17% (47.6 thousand tons) of total releases. Of this quantity, 79% are released by heat and electricity companies and boiling installations. The largest share in the total pollutants released is accounted for by: hydrocarbons (15 %) released by road transportation, oxide and nitrogen dioxide (14%), sulfur dioxide released by road transportation and heat and electricity stations, and carbon monoxide (8%) by road transportation, and a small portion released by industrial enterprises.

The cross border pollution consists primarily of sulfur oxides and nitrogen oxides. The degree of pollution caused by precipitation coming from west North-west (Romania, Poland, the Czech Republic, Slovakia, Germany) and from east Northeast (Ukraine) is 4 times higher than internal pollution by sulfur oxides and 1.5 times higher than local nitrogen oxides pollution.

*Water quality.* Based on laboratory research (1998), the quality of water in the Nistru and Prut rivers is qualified as moderately polluted, and therefore, drinkable, while that of water in internal rivers is polluted and degraded. Over the last decade, there have been noted a decline in the river flows of degraded water and an increase in those of drinkable water. This development indicates a decline in emissions due to the reduction in the extent of industrial and agricultural activities, and to some more comprehensive

measures of water quality protection than those previously taken. The unsatisfactory quality of underground waters still persists, in some cases due to pollution, while in other cases due to the geological environment. In some areas underground waters are characterized by high concentrations of fluorine. In other areas these waters show high concentrations of hydrogen sulfide, methane or are completely mineralized. Over recent years, a sharp growth was evidenced in nitrogen and ammonia components in ground waters, especially, in Telenesti, Floresti, Orhei, Ungeni, Comrat areas. In most of the wells an excessive concentration of nitrates and sulfates has been found.

The problem of the quality of water consumed by the population has been discussed over a long period of time, but apart from general statements, nothing substantial has been done so far, although there have been some projects and programs. Until now, information on the share of the population with access to clean water has not been determined. There is neither registration nor monitoring of small sources of water or proper information provided to the population.

**Soil quality.** In terms of natural properties, the soils in the Republic of Moldova are classified with the most valuable soils in the temperate zone. The soil is exposed to the effects of different injurious natural and anthropogenic processes and phenomena.

The depreciation of the soils' inherent ability to regenerate, as in other countries, is caused by irrational use, inappropriate irrigation, and intensive technologies applied over the last 50 years. Today, the soil's erosion and degradation directly threaten the economic and social security of the country.

The total area of eroded soil is increasing at an annual rate of 1.5% (10 thousand ha) and currently constitutes 32.2% of agricultural land. Thousands of hectares are destroyed through landslide and in ravines.

Agricultural land has been exposed to various harmful occurrences: water ero-

sion, phosphorus and nitrogen deficiency, excessive acidity, texture compression, pesticide pollution, salts and other degrading factors. Although procedures to preserve soils' natural fertility are known, there is inertia and numerous barriers of political, economic, institutional and social nature in the country. These barriers ultimately block the implementation of energetic and adequate steps in this field.

**Forest quality** is affected by some inappropriate management policies from previous periods, when the quantities of wood harvested exceeded the usable potential of forests confined within the forest tracts. The forests often are exposed to pests and diseases. The forest quality is seriously harmed by illegal cuts and livestock pasture. Most forests in Moldova originate not from seeds but from copse (3-5-8<sup>th</sup> generations of cuts), which is why their structure and functions are degraded. Trees are aging quickly, and their resistance to negative factors of the environment is reduced. The forest ecosystem is deteriorated and fragile.

**Waste problems.** While not heavily industrialized, the Republic of Moldova encounters, as do other countries, all the problems of waste accumulation. Storage, preservation and use of wastes are still matters of discussion, analysis and intentions, or even projects without any adequate practical solution. The Republic does not have a ground available for toxic waste disposal. Part of these wastes is stored outside the allowed and appropriately equipped areas. Another part is evacuated, without the authorization of appropriate authorities, to household waste dumps. According to State Ecological Inspectorate evidence, about 13 thousand tons of toxic wastes have accumulated in the country, which is 3.3 kg/inhabitant. Only half of this (49%) is buried.

Inconsistent agricultural privatization resulted in the loss of control over the chemical waste management within former collective farms. Warehouses were left without owners (have not been privatized), some of which have been ruined,

others demolished. The existing ones require capital repairs and an appropriate outfit which is impossible due to the lack of funds. A special government resolution in 1997 on collecting and storing unusable and prohibited pesticides can be enforced with practically no financial support from international institutions.

An equally delicate situation is also anticipated with regard to household wastes. Most of the grounds are used up, and the extent of their use equals or exceeds the acceptable limits. Not only does the lack of funds make the construction of new dumps impossible, but the land deficiency as well. There are 1348 household dumps in the country taking up 1144.3 ha or 31 square meters/inhabitant, where 29,4 million cubic meters of garbage is deposited, or 6.8 cubic meters /inhabitant. It does not include the refuse which is deposited into unauthorized places — pits, former blocks, on the bank of rivers and lakes, etc. Since the mayoralties do not have transportation and fuel available to ensure waste evacuation, in many villages unauthorized dumps appear spontaneously. Separate collection of scrap metal, glass, scrap paper, etc, and their recycling is at the stage of testing.

### **Natural Environment Management**

The transition to the market economy, the process of social restructuring and reform in the Republic of Moldova has triggered some new approaches in the development strategies of the country. Resources conservation and environmental protection have become imminent objectives in the economic, social and moral development of the human community. New concepts also involve the use of new environmental management techniques: the ownership of the resources and state's role; the legal framework (legislation); economic, technical and regulatory mechanisms, education tools, etc.

The most significant achievements are noted in the establishment of a legal framework required for environmental conser-

vation and protection. Overall, the effective laws are aimed at specifying the protective environmental actions and measures to preserve conditions favourable to human's health, preventive measures to avoid resources' pollution and depletion and preserve biodiversity, as well as ensuring consistency with relevant international conventions and projects. A new generation of relevant legal statements is in the process of development, most of them cover, in particular, the use of resources in such sectors as agriculture, industry, transportation, human localities, and etc. The economic tools designed to influence environmental interests and behaviour of economic entities (resource conservation, environment protection, waste recovery, use of adequate technologies) are limited to charging taxes on the use (consumption) of resources.

Pollution fees and penalties for various violations are charged to the ecological fund, whereas taxes on the use of resources are charged to the budget. While the amount of these taxes is not fundamental in terms of economic criteria and has no financial, economic or ecological implications, their application is an experience, a starting point towards the improvement of these mechanisms. The environmental protection administration now falls under the authority of the Ministry of Environment, the State Ecological Inspectorate being under its subordination. The role of the ministry as a central authority in government policy has increased as compared to previous years.

The attention and support environmental issues have received over the last years, and the way international institutions address environmental problem in the Republic of Moldova has notably helped achieve awareness and trigger political action.

The main problem which paralyzes the institutional framework for environmental protection is the lack of adequate feedback at the micro-level of local public administration, economic entities, civil

society, citizens and regular people. The legislation itself, no matter how good it may be, cannot replace the traditions and people's standard behaviour. It is not the mere awareness of the problem that is required in order to effect change, but a different perception of values and a different moral as well. A national program of ecological education is more than opportune. Obviously, it cannot be treated separately from the objectives and actions aimed at increasing public welfare: economic, food, the physical security of people.

Ecological NGOs may have an important role to play here. Although the number of such organizations increased (the current official record shows .... ecological organizations), they still do not exercise sufficient influence on the formation of the relevant public opinion.

*“When the trouble is around, you never know where it'll come from.”*

**Moldovan proverb**

## 5.8. Increase in Personal Insecurity

Personal security is an important criterion against which to judge a state's regard for individual citizen's security. No other human security aspect, however, is more important than the prohibition

against physical aggression. Threat to an individual life in a climate of political, economic and social crisis may be generated by a number of factors:

- By the State and public clerks (physical violence, moral aggression, tortures within the penal system, war);
- By other social groups (ethnic conflicts);
- By particular persons or criminal groups, and by street violence;
- Through threats within the family focused on women and children;
- Through behavioural threats to the self (suicide, drug addiction, etc.).

Changes occurring in the society have caused a substantial decrease in the protection of citizens. The transition period has generated the emergence of unemployment and stark social contrasts. Rackets, violent conflicts between criminal groups, corruption of legal institutions and the consumption of drugs have become commonplace in Moldova.

The main problems connected with personal security in all regions of Moldova relate to criminality, labour or traffic accidents, violence within the family and drug consumption.

Criminality poses the greatest threat to individual security. The root causes of increased criminality in the Republic of Moldova during the last decade are the following: the creation of a new state with an imperfect, sometimes even contradictory, legal framework; the territorial partition of the country as a result of the military conflict in 1992 in Transnistria and events flowing from it. The conflict provided many people with access to considerable quantities of arms. In addition, new groups have appeared in society, seemingly rich over night, and they can protect their interests only by illegal measures. Arrears to salaries for employees of institutions involved in law enforcement and an insufficient supply of necessary equipment have rendered legal institutions open to manipulation.

### Box 5.8.1

#### Major international human rights acts ratified by the Republic of Moldova

- The International Covenant on Economic, Social and Cultural Rights
- The International Covenant on Civil and Political Rights
- The International Convention on the Rights of the Child
- The Convention on Political Rights of Women
- The International Convention on Elimination of All Forms of Racial Discrimination
- The Convention on Inapplicability of the Statute of Limitations for War Crimes and Crimes against Humanity
- The Convention on Genocide Prevention and Punishment
- The Convention on Abolition of Forced Labour
- The Convention on Elimination of All Forms of Discrimination Against Women
- The European Convention for the Protection of Human Rights and Fundamental Freedoms
- The Framework Convention on the Protection of National Minorities

*Sursă: Center for Human Rights - Moldova, 1999*

Statistical data for 1998 indicate that 8210 serious crimes were committed within the territory controlled by the central authority of the state (with the exception of Transnistria). Of them approximately 300 crimes involved guns, grenades and explosives. At the same time criminality in Chisinau is two to three times higher compared with other zones in Moldova and is characterized by a ratio of 178.1 crimes to 10 000 inhabitants, compared to the average in the country of 95.7. In 1998, 375 people died as a result of premeditated crimes and 420 people suffered from severe injuries. There is an increase of 14.4% in the number of people with no particular occupations, confirming the impact of social problems on the level of criminality.

Homicide and suicide statistics appear somewhat peculiar. For example, in 1998 the number of suicides in Moldova exceeded by 1.38 times the number of murders (15.7 cases of suicide to 100 thousand inhabitants, and 11.3 homicides to 100 000 inhabitants). This would appear doubtful. However, given the economic situation in which more than 300 thousand people have lost their jobs and 80% of the population is under the poverty line, suicides exceed homicides only between 10-20%. On the one hand, such a picture may present an "improved" statistical picture of crime control. On the other hand, it might indicate violence within the penal system.

Corruption has expanded considerably. In February, 1999 a Republican conference named "Organized Crime and the Shadow Economy in the Republic of Moldova" was jointly sponsored by the Ministry of the Interior of the Republic of Moldova, the Police Academy, the Independent Association of Criminology and the Soros Foundation. According to data cited during this Conference, corruption has attained the highest level in the history of the Republic of Moldova. More than 79% of entrepreneurs and 85% of other respondents declared it is impossible to solve a problem without bribing state employees.

#### Box 5.8.2

Official data supplied by the Ministry of Interior regarding the control of criminality in the Republic of Moldova are rather optimistic ones. Thus in 1998 a 9.3% decrease in criminality was registered, including a 20.6% decrease in serious crimes investigated by the criminal police (robberies — 251.9%, fraud — 48.1%, severe injuries — 20%, theft of state property — 20.4%, apartment robberies — 8.5%). These positive tendencies remained through the beginning of 1999. Mobilization of reserves in crime control and prevention has contributed to an increased efficiency of the police. Arrests have increased by 59.9% to 64%, especially in the case of serious crimes (homicides — up 82.4%, severe injuries — 82.9%, rape — 91.7%, robberies — 56.2%, plunders — 47.5%, theft of state property — 4.6%, theft of transportation vehicles — 27.7%). Last year the police were successful in neutralizing 146 criminal groups, of which 67 were organized groups and 411 criminals were detained.

However, in conformity with some reports in the free press, the real situation seems to be much worse. There are numerous cases in which the penal files are shelved without enough grounds for doing so. Also, evidence is not always disclosed.

The reduction in registered criminal violations may also be explained by the fact that citizens turn less frequently to police for assistance and protection of their interests. The distressed population would rather use the criminal power structure to ensure its protection.

*Source: Ministry of Internal Affairs of the Republic of Moldova*

According to public opinion, more than 92% of the respondents are afraid of criminals and their cruelty. They mentioned their fear that criminals may not be found. People are concerned by the rapid growth of many types of violations. More than 86% of those polled consider such a democracy a false one.

The continuous growth of criminality generated by the spread and use of drugs constitutes a real threat to personal security in Moldova. In 1998, 870 crimes of this category were officially registered. The situation in connection with minors seems especially grave. Distribution of drugs has focused on schools and other educational institutions. The increase in drug addiction has led to an explosion in the number of AIDS cases in the country. State institutions appear ignorant and unable to undertake measures in this area. In order to diminish the danger of AIDS contamination, the Soros Foundation in Moldova has financed a project to supply drug addicts with free disposable syringes.

The personal security of women and children has deteriorated. In Moldova, more and more children are deprived of the right to attend school because of poverty. All these factors, along with malnourishment, have a negative impact on the health of an entire generation. Children have begun to be exploited by criminal groups that use them as beggars. Prostitution among minors has acquired greater proportions. According to data from the Ministry of the Interior, 12% of crimes were committed by school children, 54% by children out of school and 6% by pupils from vocational schools. Among reasons leading to the growth of criminal behaviour among children are the consumption of alcoholic drinks and

an increased susceptibility of the juvenile nervous system to alcohol. Every seventh minor out of those who committed crimes was alcohol intoxicated. Records indicate that 594 minors participated in group crimes.

In 1998, 229 rape cases were registered. Due to unemployment, women become involved in improper and risky activities in order to ensure the subsistence of their families. Very often they are deceived by false promises to get jobs abroad, and once there they are forced to practice prostitution. While selling goods in street trade, women very easily become targets of robberies.

The probability of involvement in a traffic accident hasn't changed markedly in Moldova although roads are in poor condition and there is an almost three fold increase in the number of cars on the road, most of which are older cars imported from abroad. In 1998, about three thousand traffic accidents were registered, in which more than 3600 people were injured and 492 lost their lives.

The situation in the eastern part of the Republic of Moldova presents a particular problem. Subsequent to armed conflict during the summer of 1992, the Moldovan state lost control of this territory. The regime installed in Transnistria persecutes any political opposition and uses methods that have nothing in common with the mechanisms of a state under the rule of law. The situation is especially difficult for those who have acquired citizenship in the Republic of Moldova. Dismissal from employment on political grounds and intimidation have become commonplace in the zone controlled by the separatist regime. Personal security is affected also by the fact that on the left bank of the Nistru River there still exist paramilitary cossack troops and the population is highly armed. An abrupt rise in criminality has taken place in this region over the last several years.

The administration in Tiraspol offers no information regarding the real degree of criminality or number of attacks on persons. Considering the general situa-

Box 5.8.3

**Human Rights violations**

The separatist regime in Tiraspol gives priority attention to coercive institutions, including the armed forces. In a situation in which "general military service" is compulsory, often the personal security of those who do not accept the regime is under a real threat. There are numerous cases in which, upon refusing to enroll in the army of the self-proclaimed regime, persons were subjected to physical torture and became invalids for the rest of their lives.

Kidnapping of citizens is frequently used by the Tiraspol regime. On December 14, 1998, a citizen of the Republic of Moldova, Mr. Vitalie Corobco was kidnapped in Chisinau and taken to Tiraspol by employees of the Transnistrian "ministry of state security". Later, Vitalie Corobco was transported to Moscow.

The case of the political prisoner Ilie Ilascu, a deputy in the Parliament of the Republic of Moldova, presents a special situation. For 7 years now he has been subjected to psychological abuse, physical torture and a death sentence by the regime. Numerous appeals to international bodies undertaken by the authorities of the Republic of Moldova have so far had no success because Tiraspol authorities do not recognize international organizations. At present the European Court for Human Rights is considering Ilie Ilascu's file as an exceptional case.

*Source: compilation from mass-media articles*

tion, however, one can conclude that fundamental human rights are frequently being violated in Transnistria, and that the situation concerning personal security is much more grave compared than that on the entire territory of the Republic of Moldova. The Moldovan Parliament, in view of the situation created in Transnistria, and also in conformity with provisions under paragraph 11 e) of Clause 188 (1995) of the Council of Europe Parliamentary Assembly, considered it necessary to make a declaration during ratification of the European Convention of Human Rights. According to the declaration, the Republic of Moldova assumes no responsibility for acts committed on the territory of the self-proclaimed Transnistrian republic.

The Moldovan society has overcome the tension interethnic relations created at the beginning of the 'nineties around interethnic relations. Although interethnic relations may not be fully stabilized, nevertheless there is no danger of eventual interethnic conflicts at the present time.

In summary, personal security in the Republic of Moldova is not sufficiently secured. Conditions for an increased degree of personal security for Moldovan citizens may appear only after the most acute stage of the economic crisis is over. At the same time, an efficient system ensuring the personal security of citizens may function only in a state with the rule of law.

A change in the circumstances cited below should improve the personal security and crime control in the Republic of Moldova:

- A reduction in unemployment — the main grounds for the growth in criminality;
- An increase in family stability and the family's increased role in education of children;

- Improvement in the struggle against alcohol and drug addiction, also sources of criminality;
- A decrease in the size of the shadow economy, and stronger efforts combatting corruption;
- An increase of authority and responsibility of legal institutions in the struggle against criminality; liquidation of arrears to salary payment in this sphere;
- More efficient investigations of criminal groups and delinquents, along with development of an efficient control mechanism; creation of more incentives within the legal justice system and bodies charges with law enforcement;
- Improved training of police employees;
- Expanded cooperation via Interpol;
- Creation of an Internet database for legal and fiscal institutions;
- Improvement of the legal framework in force. Urgent approval of a procedural penal code, of the contravention code and the law on money laundering.
- Adoption of laws on income declaration, the seizure of illegal income, drug and arms smuggling, and adoption of a civil service ethics code.

The personal security of people is the most important task of a state. People should be free of fear and able to have confidence in the future. Without these things it is impossible to achieve real progress in social and economic development.