

## *Chapter II*

# *EXISTING HOUSING STOCK AND NEW CONSTRUCTION*

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This chapter gives an overview of the existing housing stock as well as recent developments in new construction. Section A reviews the condition of the existing stock, including the quality and size of existing dwellings and their amenities. Section B describes the trends in tenure and the housing market. Section C focuses on the current system and organization of maintenance. Finally, section D analyses practices and trends in new construction.

### **A. Existing housing stock**

The economic difficulties of the past decade have left their mark on the existing housing stock. More than a decade of insufficient investment in maintenance and repair as well as in housing infrastructure has resulted in a deteriorating housing stock and inadequate provision with housing utility services. The impact of the 1988 earthquake on the housing stock is still visible despite the generous assistance of the Government, with the help of international donor organizations, to the affected households. Some families in the earthquake zone are still living in inadequate temporary shelters, so-called *domics*. Throughout the country there are many buildings that need reinforcing or that are still unfinished.

#### ***Total housing stock and housing supply***

The total surface of Armenia's housing stock amounts to 67,241,700 m<sup>2</sup>, of which 59.9% is in urban areas and 40.1% in rural areas. Table 6 provides an overview of the distribution of the housing stock among Armenia's 11 regions (*marzes*) as well as between urban and rural areas. The table shows clearly that Erevan has the highest urban concentration followed by the Lori, the Kotayk and the Shirak *marzes*. Both the Lori and the Shirak *marzes* were severely affected by the earthquake.

**Table 6. Housing stock per marz, 2002**

	Total	Total surface in thousands of square metres				
		% of total	Urban settlements	% of urban areas	Rural areas	% of rural areas
Erevan	18,787.9	27.9	18,787.9	46.7	--	--
Aragatsotn	4,195.7	6.2	1,014	2.5	3,181.7	11.8
Ararat	5,659.8	8.4	1,381.4	3.4	4,278.4	15.8
Armavir	6,607.8	9.8	2,556.8	6.4	4,051.0	15.0
Gegharqunik	5,762.1	8.6	2,345.0	5.8	3,417.1	12.7
Lori	6,334.7	9.4	4,169.5	10.4	2,165.2	8.0
Kotayk	6,500.6	9.7	3,742.6	9.3	2,758.0	10.2
Shirak	5,476.6	8.2	2,767.2	6.9	2,709.4	10.0
Sjunik	3,351.8	5.0	1,846.6	4.6	1,505	5.6
Vajots Dzor	1,387.5	2.1	458.3	1.1	929.2	3.5
Tavush	3,177.2	4.7	1,176.4	2.9	2,000.8	7.4
<b>Total</b>	<b>67,241.7</b>	<b>100.0</b>	<b>40,245.7</b>	<b>100.0</b>	<b>26,996.0</b>	<b>100.0</b>

Source: Ministry of Urban Development.

Single-family homes represent 45-50% of the total housing stock; most are in rural areas. Most of the multi-unit housing stock (52%) was built between 1960 and 1980. About a quarter of the multi-unit housing was built before 1960. The typical multi-unit building is therefore 30 to 50 years old – an age when serious repairs are necessary.

**Table 7. Type of housing**

	Total number of housing units		Number of units by type of housing			
			Multi-unit buildings		Single-family houses	
	1989	2001	1989	2001	1989	2001
Total	650,826	750,719	361,166	414,259	289,660	336,460
Urban areas	437,510	494,988	329,670	383,472	107,840	111,516
Rural areas	213,316	255,731	31,496	30,787	181,820	224,944

Source: Ministry of Urban Development.

It is interesting to note that according to the tables above the housing supply in Armenia measured in housing units has increased significantly (+15%) during the past 12 years despite the sharp decrease in new construction (see below).

The main reason is the gradual ‘legalization’ of illegal or semi-legal housing, in particular through legislation that regularizes existing housing (see chap. IV) and the low rates of removal of inadequate or damaged housing from the existing stock. In 2001 only 18,000 m<sup>2</sup> or 0.3% of housing was taken out of the stock because it was inadequate. International averages, however, suggest that a country needs to replace between 1 and 2% of the housing stock annually in order

to maintain existing standards. Given the predominance of poorly maintained high-rise prefabricated structures in Armenia, this proportion should be considerably higher.<sup>1</sup>

Despite the sharp decrease in new construction there is unlikely to be a shortage of housing. The reason is the drop in population owing to emigration. Some sources estimate a housing surplus. However, in the absence of accurate statistics on, in particular, the condition of the available housing units, these estimates cannot be confirmed. There are in addition strong regional variations, with most of the cities in the earthquake zone reporting a housing shortage.

### *Size of housing*

The average size of an apartment is 63.5 m<sup>2</sup>. (In urban areas this figure is 62.9 m<sup>2</sup> and in rural areas 70.3 m<sup>2</sup>.) In Erevan, the average size of a one-room apartment is 40 m<sup>2</sup>; for a two-room apartment it is 57 m<sup>2</sup>; for three rooms 70 m<sup>2</sup>; and for more than three rooms 85 m<sup>2</sup>. The statistics show a gradual increase in the average floor space per capita.

**Table 8. Average floor space per inhabitant (2002)**

	Total	Floor space (m <sup>2</sup> )	
		Urban	Rural
Erevan	15.1	15.1	
Aragatsotn	25.0	21.6	26.3
Ararat	18.2	13.9	20.2
Armavir	20.5	20.6	20.3
Gegharqunik	20.7	22.9	19.4
Lori	16.1	15.8	16.7
Kotayk	19.8	18.7	21.5
Shirak	15.1	11.4	22.7
Sjunik	20.4	16.0	30.8
Vajots Dzor	20.0	16.1	22.7
Tavush	20.3	18.8	21.3
<b>Total</b>	<b>17.7</b>	<b>15.9</b>	<b>21.2</b>

Source: Ministry of Urban Development.

Between 1995 and 2002 per capita floor space grew from 15.3 m<sup>2</sup> to 17.7 m<sup>2</sup>. The increase took place mainly in rural areas. The lowest figures are in Erevan and in the earthquake zone (Shirak and Lori *marzes*). Although detailed statistics are not available, there is evidence of huge contrasts. According to the 2001 survey on household data, the situation is particularly critical for those households that have only one room (11% of all households). They have an average of 2.5 people living in one room, while the nationwide average is 1.4.

### *Quality of housing*

The condition of Armenia's housing stock is poor. Extremely limited investment in maintenance and repair during the past decade together with the impact of severe winters and the 1988 earthquake have led to a substantial deterioration of the housing stock. Many apartment buildings have no entrance doors because the inhabitants have removed them to use them as

<sup>1</sup> Scott Wilson and Hai Nakhagitis, *National policy study: Republic of Armenia* (GHK International, 1999).

heating material in the winter. Windows and frames in common areas and the handrails of stairwells have been removed for the same reason.

The poor quality of housing is above all the result of a decade of almost no investment in maintenance and repairs. The annual need of investment in capital repairs for the multi-unit housing stock is estimated at US\$ 55 million (based on calculations made for other former Soviet republics, an investment need of US\$ 0.13/m<sup>2</sup> per month was assumed). This means that over the past 10 years a total of US\$ 550 million should have been invested in capital repairs for these buildings (approximately 35 million m<sup>2</sup>). Given that in fact not more than 10% of multi-family housing has been repaired, the current backlog can be estimated at US\$ 500 million. The figure is likely to be even higher when taking into account the increasing amount necessary because of continuously deferred maintenance.

Of the urban housing units 41.6% are equipped with basic housing amenities (kitchen, cold water, toilet with draining system and bathroom). For rural housing units this rate is only 14.2%.<sup>2</sup> The situation is better when looking at water supply only – 85% of households have access to it, but not regularly. The provision of heating is particularly poor as the energy crises in the first years of independence resulted in a massive breakdown of the traditional district heating systems. The unused systems have been deteriorating and in most cases cannot be restored. Consequently, today only 9% of households have access to central or individual heating. Even in urban areas this figure is only 11.6%. In the absence of central systems, the population has turned to individual heating stoves and electric heaters. Currently 50% of the urban population is reported to use wood as the main source of heating.

### ***Unfinished structures, damaged buildings and illegal constructions***

There are many unfinished residential structures in Armenia. All were started prior to 1991, and their construction was halted largely because funds dried up.

The number of unfinished buildings is 4,487, comprising almost 29,000 housing units. The majority of these units - 52% - are located in the earthquake zone, where construction began in the late 1980s and early 1990s to provide shelter to those who lost their homes in the earthquake. Another 20% are in Erevan and the remaining units are scattered throughout the country. For 97% of the units, construction is less than 60% finished, which means that it is more expensive to complete them than to buy an existing home. Completing the unfinished buildings may begin to make economic sense if the economy takes off and housing prices rise. The first signs of such a development were noticeable in 2002.

Most units within the unfinished buildings had already been allocated to households. Therefore, any policy which aims to complete these buildings must take into account the claims that those households might have on a particular unit. The nature of the claims varies. First, there are those households whose homes were demolished to make way for these new homes and who were promised units in the new buildings. If nothing else, this group can make a strong moral claim to the units. Second, some buildings were built by cooperatives, with households

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<sup>2</sup> *Social snapshot and poverty in Armenia: Statistical analytical report* (Erevan, 2002).

contributing a considerable sum of money towards the construction costs. This group can make a strong case of partial ownership of these units. The third group consists of households on the waiting list who were allocated units.

There are currently 420 so-called category-III damaged buildings (16,800 apartments) in Armenia. These are buildings that are too dangerous to live in, but which could be made habitable again. Calculations show that the cost of reinforcing these buildings would amount to US\$ 100 million. Most of these buildings are situated in the earthquake zone. As reinforcing these buildings is usually cheaper than completing the unfinished structures, the Government has given priority to reinforcement in its strategy for recovering the housing stock in the earthquake zone. There are also 32 category-IV buildings (1,182 apartments), which are dangerous structures where reinforcement is not deemed possible/ economically viable.

There are, according to the State Cadastre Committee, around 325,000 illegal structures (mostly illegal extensions to existing structures). In 2002 a law was adopted to bring these into the formal housing sector (see chap. IV).

### *Homeless, refugees and households without permanent shelter*

Of the approximately 800,000 families living in Armenia, about 40,000 or 5% are without permanent shelter. About 40% (2% of the total number of households) live in temporary structures, so-called *domics*, in the earthquake zone. *Domics* are small caravans that were often set up in public places. Dormitories and damaged unsafe housing provide shelter to 10% of the households living in temporary shelters. Others live in former hotels, schools and kindergartens which were converted to temporary housing. Of the households without permanent shelter, 5,990 live in Erevan.

The households most likely to be homeless are the victims of the 1988 earthquake or refugees. According to the Office of the United Nations High Commissioner for Refugees (UNHCR), there were, in January 2000, 13,600 refugee households living in temporary accommodation. Of those, 67% were living in substandard community centres and 33% were living with relatives, in rental or illegally occupied houses. With the help of international organizations, many of these households have been provided with shelter since then. However, this still leaves several thousand households living in community centres and in need of permanent shelter. Assistance to these households is becoming increasingly urgent owing to their deteriorating living conditions.<sup>3</sup>

However, not all households without permanent housing were displaced by the earthquake or are refugees. Others have moved out of their homes because of overcrowding. Because of the high portion of low-quality housing in the permanent housing stock, differences with temporary housing (*domics*) are not as striking as might be expected. Except for the most dilapidated ones, *domics* of an acceptable quality when vacated are often occupied by young families in great need of housing.

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<sup>3</sup> According to the Office of the United Nations High Commissioner for Refugees (UNHCR), February 2002.

Alongside those without permanent shelter are the tens of thousands of families requiring better housing conditions. Altogether it is estimated that approximately 100,000 households are either without permanent housing or need urgent assistance owing to, among other things, overcrowding. Approximately 40,000 families are on the waiting list for housing because of overcrowding (less than 5 m<sup>2</sup> per person). The waiting list dates back to the Soviet period and never seems to shorten.

A comprehensive policy to help all households in need of housing will be necessary. They include refugees, households affected by the earthquake, households currently living in cramped conditions and others without permanent shelter. Housing is an important tool to facilitate the integration of the socially vulnerable population groups into society. In regard to the refugee community, for example, a clear link has been observed between a refugee household's willingness to integrate and the provision of adequate housing.<sup>4</sup>

## B. Tenure and markets

### *Tenure*

Despite the dominance of State provision during the Soviet period, Armenia had one of the lowest proportions of State-owned housing of all the former Soviet republics. Privatization began already in 1989, when 40,000 apartments (8% of the 500,000 State-owned units) were transferred to the private sector. In 1993, the Law on the Privatization of State and Public Housing was passed and more than 129,000 additional apartments were privatized over a 16-month period free of charge to registered tenants. Today, 96.0% of the housing stock is in private ownership; the remaining 4% was mostly transferred to local governments. The outcome of this process is that Armenia is now largely a society of homeowners.

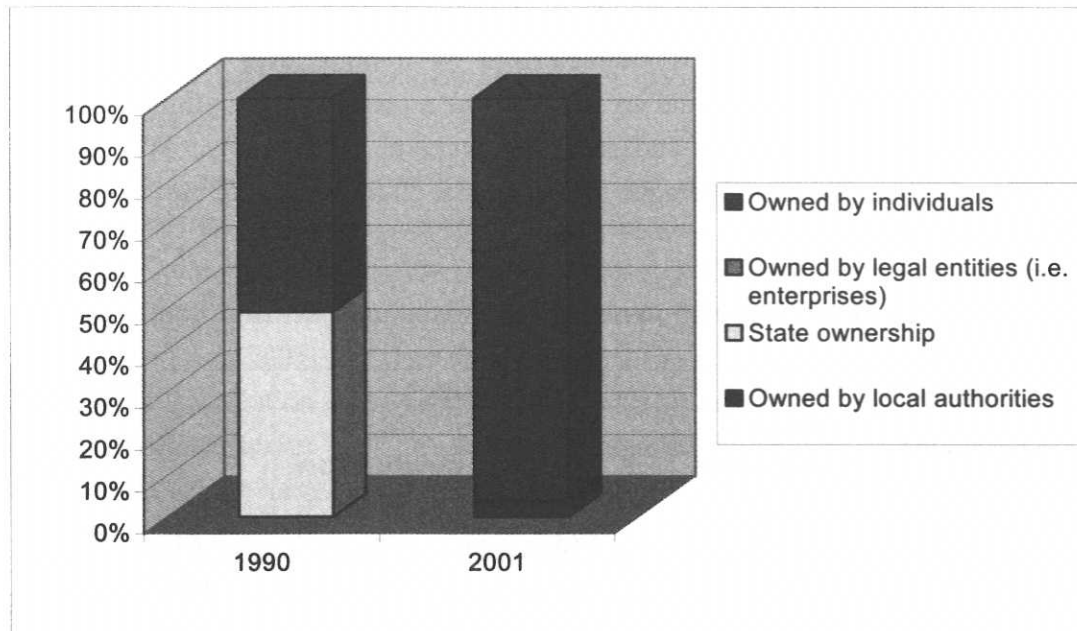
The units were privatized to their sitting tenants. The value of the apartment that a household received was therefore largely a matter of luck, as prices vary considerably across the country. The privatization process has also resulted in the mixed ownership of buildings with both private and public owners.

**Table 9. Tenure of the housing stock**

	1990	2001
State ownership	49.0%	0.6%
Local authorities		3.3%
Owned by legal entities (e.g. enterprises)		0.1%
Owned by individuals	51.0%	96.0%

Source: Ministry of Urban Development.

<sup>4</sup> According to UNHCR, February 2002.

*Figure V. Tenure of the housing stock*

### *Housing markets*

There are few market transactions. Only 2% to 3% of all apartments change hands each year. Most transactions are done informally; professional real estate agencies are involved in fewer than 30% of market transactions. The number of market transactions in the earthquake zone is relatively high, stimulated by the Government's housing voucher programme.

The programme grants eligible households a voucher to enable them to buy an apartment of a size based on the number of individuals living in the household at the time of the earthquake. The vouchers are primarily granted to those households that are living in temporary shelters in public places. The programme provides earthquake victims with a permanent home and at the same time serves as an urban planning tool, as it enables the clearing of public spaces so that they can revert to their intended use. There is no geographic limitation as to where vouchers can be used; however, they can be used only to buy permanent homes built according to current construction standards. The programme has boosted market transactions also outside the earthquake zone as households began to use their vouchers to buy homes in other parts of the country.

The price of housing in Armenia differs from region to region. While on average 1 m<sup>2</sup> of gross residential area has a market value of US\$ 80 – 90, it costs approximately US\$ 600 in Erevan. During the past two years transactions in the housing market have increased by 40%. In particular the year 2002 saw a sharp increase in market transactions and in real estate prices. In 2002, average market prices for flats in multi-unit buildings increased by 1.5% a month. The annual average increase was 20.0%. Outside Erevan, market prices for private houses have

increased by 15.0%.<sup>5</sup> In 2002 the overall number of transactions was 58.3% higher than in 2001: up 23.2% in Erevan and up 79.9% in the *marzes*. The increase was to a large part due to the housing voucher programme in the earthquake zone (see above).

Armenia's housing market is characterized by a high level of supply compared to effective demand. Many housing units are available as a result of emigration. Existing housing units are approximately three times cheaper than comparable new units. Whereas the market price of 1 m<sup>2</sup> of residential area averages between US\$ 80 and US\$ 90, new construction costs US\$ 250 or more.

**Table 10. Developments in the housing market (in units)**

Year	Property transfer*		Renting		Mortgages	
	Apartment	Single-family house	Apartment	Single-family house	Apartment	Single-family house
2000	10,511	2,321	126	49	702	521
2001	11,825	2,455	183	60	815	366
2002	15,504	3,887	285	88	1,294	436

Source: State Cadastre Committee.

\*Sale or other forms of property transfer (inheritance, gift, etc.).

The ratio of land costs to total development costs can be as high as 40% in the centre of Erevan. Prices on the private market for land in the centre of Erevan range from US\$ 50 to US\$ 100/m<sup>2</sup>. Since most urban land is still publicly owned however, there are relatively few land transactions in urban areas. In Erevan, for example, 90% of land is owned by the State, while only 10% is in private ownership.

### ***Rental market***

The rental market is relatively small, given the large number of apartment units that were privatized. The largest category of rental units is that which is currently being transferred to local governments (approximately 3.3% of the apartment stock) (see chap. IV). The private rental market is very small and concentrated in Erevan. Rents in the private market vary from US\$ 50 per month at the low end to US\$ 250 to 400 per month at the top end. The latter are mainly flats rented out to companies or expatriates. There is no rent control. Landlords set the rents themselves and most private leases are concluded informally.

## **C. Maintenance**

### ***Maintenance/repairs and utilities***

As in many other countries in transition, the privatization of a large part of the housing stock in Armenia was linked to the expectation that the new owners would increasingly invest in maintenance and repairs, as they would come to regard their homes not only as shelter but also as valuable assets. The State would thus be freed from this burden.

<sup>5</sup> According to the State Cadastre Committee.



This expectation has not yet been met. There is a large and increasing backlog of maintenance and repairs. The current maintenance fee of 22 drams/m<sup>2</sup> typically set by local governments and condominium associations is too low to cover even current repairs, let alone make up for deferred maintenance. In addition, collection rates are very low. The result is continuously deferred maintenance and ad hoc subsidies from local governments to cover the most pressing needs.

The same is true for utility fees. Water tariffs do not include capital expenses and electricity tariffs do not account for the maintenance of electric networks inside the multi-unit buildings. Collection rates are low; they are reported to be as low as 25% sometimes. However, some progress has been achieved. For example, collection rates for water supply rose from 31% in 1999 to 40% in 2001, and they are expected to increase further after the debt restructuring and water-meter installation campaign launched in January 2003 is over. The collection rate for electricity bills is about 95%. Collection rates are considerably higher where individual meters are installed, which largely explains the comparatively high collection rates for electricity bills.

Today a total of about \$0.30-\$0.40/m<sup>2</sup> per month could be collected for maintenance and utilities if a 100% collection rate could be assured. However, evidence from other former Soviet republics suggests that US\$ 1/m<sup>2</sup> would be necessary for adequate maintenance and utility provision. The funds that are currently raised are therefore totally insufficient. This means that the condition of the housing stock is likely to continue to deteriorate, which will result in the rapid rise of financial resources needed in the future to restore the housing stock to a decent standard.

The Government is trying to address this problem. Resolution N° 2165 of 26 December 2002 introduced the concept of giving State assistance to the owners of apartment buildings on condition that they provide co-financing. This resolution is the first step towards the creation of a sustainable system of generating funds for maintenance and repairs for multi-unit buildings. However, it still needs to be determined how this system will work in practice, in particular concerning the decision-making by the owners.

#### *Organization of maintenance and market for maintenance services*

The large-scale privatization of the existing housing stock called for new management systems, in particular for the multi-unit building stock. Several legislative acts have been passed to set a framework for the efficient management of the privatized housing stock – most notably the Law on Condominiums and the Law on Multi-unit Building Management.

The adoption of the Law on Condominiums in 1996 triggered the creation of condominium associations as management tools for the multi-unit buildings. However, progress was slow. By 2002 only some 40% or 171,000 apartments in multi-unit buildings had been organized into 600 condominium associations. Moreover, a recent survey indicates that only 20% of the condominium associations are active. The reasons for this are mainly the lack of financial resources and of capacity-building measures, in particular information for the new owners on their rights and responsibilities within the condominium association.

There are few buildings where condominium associations have actually taken over the management and maintenance of the properties themselves. Most continue to depend on the zheks for these services. Zheks are the former State management companies. During the Soviet era, zheks were responsible for the maintenance of multi-unit apartment buildings. During the transition they were transferred to local governments and they are now municipally owned enterprises. Most zheks are poorly equipped and their services are low-quality. However, in the absence of any competition they have few incentives to change. There are very few private maintenance companies and the whole market for maintenance services is still in its infancy. However, the quality of the services will improve only if there is more competition.

#### D. New housing construction

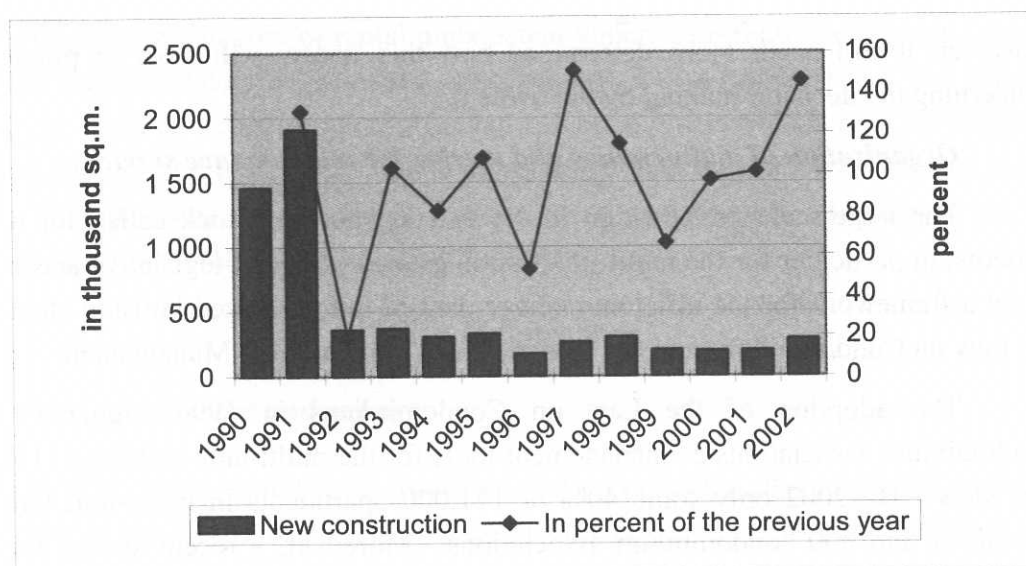
New construction has decreased sharply since the early 1990s and is still very low. New construction (measured in m<sup>2</sup>) in 2001 was merely one tenth of its level in 1991. While 17,300 new units (1,909,000 m<sup>2</sup>) were built in 1991, new construction amounted only to 1,200 units (195,000 m<sup>2</sup>) in 2001.

**Table 11. New construction (in thousands of square metres)**

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Total	1,460	1,909	360	370	305	330	174	262	302	200	194	195	285
In % of the previous year	-	131	19	103	82	108	53	151	115	66	97	101	146

Source: Ministry of Urban Development.

**Figure VI. New construction**



New construction only began to increase significantly in 2002, mainly in Erevan, with private investment, and in the earthquake zone, with financing from international donors. About 40% of new housing in that year was built in the earthquake zone, where a 93% increase was

documented. Erevan experienced an increase of 35%, whereas in the rest of the country the rapid decrease in housing construction continued. This is leading to a further concentration of the population in the main cities – Erevan as well as Gyumri and Vanadzor, which are both situated in the earthquake zone.

Armenia's recent land auctions have contributed to the revival of housing construction. As a result of the auctions, 285,200 m<sup>2</sup> of land was put on the market in 2002. This constitutes a 46% increase.

Investment in housing construction comes mainly from the private sector (71% in 2002), followed by foreign investment (some 20% in 2002) and investment from other Armenian sources (7% in 2002). Public sector investment amounted to less than 2% of total investment in 2002. Remittances from abroad seem to be driving the private property market. While officially foreign investment amounted to 20% of the total investment in housing construction in 2002, experts believe that these remittances added another 30% (see chap. V).

There are still hardly any mechanisms in place to provide construction finance through the formal banking system. The most common type of financing for the construction of multi-unit buildings is 'shared participation,' where the construction firm collects funds directly from the future owners. However, the legal status of those future owners when, for example, the construction company goes bankrupt and construction cannot be continued is not clear. This results in significant risks for the participants.

Before 1957, most buildings were made of bricks and stone. Since then, most have used Soviet precast concrete systems. Armenia does not produce its own metal frames. They are currently imported from Ukraine. This significantly raises the construction cost of multi-unit buildings. Armenia no longer has its own ceramics and glass production either. Those materials are imported from the Islamic Republic of Iran. The local building materials industry is represented by two cement factories, one asbestos factory and several producers of concrete.

There are about 1,004 construction companies in the country. They employ 43,000 workers and 40% of them are involved in housing construction. Despite the sharp decrease in construction during the past decade, the number of companies in this sector is twice that of the Soviet period. Some of the companies are dissolved and privatized parts of former Soviet companies. However, most are newly established. The size of the companies is extremely volatile and depends on the availability of contracts. The average company builds a mere 3 to 5 housing units a year. Many companies do not even renew their building licences (\$170 per year) unless they think they have a chance of winning a tender. A positive development is that the Government has recently streamlined the procedure for obtaining building permits. As a result the waiting period has been cut to 20-30 days.