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Strategy for Land Consolidation and Improved Land Management in Armenia

Pre-Feasibility Study

Study team:

Dipl.-Ing. Karin Chluba (State Department for Land Consolidation, Baden-
Württemberg)

Prof. Dr. Einhard Schmidt-Kallert (AHT International, Essen)

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List of Abbreviations

ACBA	Agricultural Co-operative Bank of Armenia
FAO	Food and Agriculture Organisation of the United Nations
GEF	Global Environmental Facility
GIPROZEM	State Institute of Land Planning
IFAD	International Fund for Agricultural Development
SCC	State Committee on the Real Property Cadastre of the Government of Armenia
SIDA	Swedish International Development Agency
SWEDESURVEY	The Overseas Agency of the Swedish National Land Survey
UNDP	United Nations Development Programme
USAID	U.S. Agency for International Development
USDA	United States Department of Agriculture
WORDGUM	State Irrigation Authority (a subsidiary of the State Department on Water Resources)

Glossary

Marz	administrative District in Armenia
Marzpet	the Head of the administrative District

Exchange Rate

At the time this report was written the exchange rate was 1 US\$ = 560 AMD (Armenian Dram)

Executive Summary

The objective of the present study was to contribute to the development of an appropriate strategy for improved land consolidation/land management in Armenia, incorporating elements of rural regional development.

Situation Analysis

Armenia is the only country in the former Soviet Union where rural land property has been almost entirely transferred to smallholder farmers. Land reform was started in 1991 and completed in 1993. The privatisation programme led to the emergence of 324,000 family farms. The current number of farmers may be even higher due to subdivisions resulting from inheritance. The present average farmholding size in the country stands at 1.21 hectares.

The Government is currently undertaking a programme to issue title certificates and to establish the associated land registries, maps and services. Important legislation that is conducive to sustainable land management has been enacted. Armenia's new Land Code was enacted by Parliament in July 2001.

Rural land markets are still emerging and in the absence of an active market for agricultural land, informal practices dominate.

Despite adverse ecological conditions Armenia's agriculture plays an extremely important role in the economy of the country. The sector accounts for 30% of the GDP (as compared with 90% before transition) and for 42% of employment. Cropping patterns in Armenia changed radically in 1991 and 1992. A major shift took place towards the cultivation of basic food crops for home consumption at the expense of fodder crops, fruit trees and vineyards. The agricultural support infrastructure is inadequate. The irrigation system is partially defunct and does not serve the newly established private farms well. Access to farm mechanisation is erratic.

The most important challenge for Armenian agriculture in the future would be a reorientation towards market production and the processing of food. The country needs to establish export markets for those crops for which Armenia has a comparative advantage (wine, fruits and vegetables), while increasing the degree of self-sufficiency in meat and dairy products. The rural economy would benefit greatly if more small and medium-scale food processing plants were set up in the villages.

The time is ripe for the introduction of a procedure for land consolidation in Armenia, as this would provide a framework to tackle the multiple problems with which rural communities are simultaneously faced. However, highly flexible approaches are required since the rural areas of Armenia are still in a transitional situation. The conceptual proposal presented in the following section is intended as a response to this requirement.

The proposed concept for land consolidation

The mission team proposes that standard procedures for land consolidation projects in Armenia be introduced.

Every instance of land consolidation should be preceded by a land use planning effort. Land use planning can be used as a vehicle for awareness building with regard to land consolidation and all related rural regional development issues. In the process of land use planning alternative scenarios for the future development of the respective community will be

discussed. The land use plan would also provide the basis for decisions on the type of interventions most urgently needed to improve the livelihood of the local population, the rural economy and localised economic circuits. In the course of land use planning it would become clear what type of land consolidation would be appropriate in the given situation.

The mission team proposes two alternative models for the process of land consolidation, depending on the complexity of tasks to be tackled:

- The first is a simplified model, which would focus on re-allotment and amalgamation of land parcels on a voluntary basis and which would try to encourage leaseholds within the community. This model can be started if at least 40–50% of property owners agree to participate.
- The second is a comprehensive model, which would incorporate considerable civil works such as the construction of new irrigation networks and agricultural roads and which would include the re-allotment of all land parcels in the community. This model requires 100% participation of all property owners in the community.

A Strategy for the Introduction of Land Consolidation in Armenia

Preparations are already under way to set up an interministerial task force on land consolidation. This task force will act as a steering committee for the introduction of land consolidation in Armenia. It is recommended that at the operational level the construction Department of the SCC be entrusted with the introduction and co-ordination of the land consolidation.

The members of the mission envisage that the introduction of land consolidation would occur in three phases:

- In the first phase there would be mainly land consolidation schemes following the simplified model with an emphasis on leaseholds.
- In a second phase there would be more pilot projects of the comprehensive type, based on a government decree, but still without specific land consolidation legislation.
- In a third phase a Land Consolidation Act would be drafted based on the experience gained from various pilot schemes, and then land consolidation would be introduced throughout the country.

Some salient features of the proposed land consolidation procedure should be emphasised:

1. Implementation of the individual schemes would be entrusted to private consultants.
2. Good horizontal co-ordination of all the sector ministries involved will be essential.
3. The success of the individual land consolidation scheme hinges heavily on in-depth consultations with all landowners.
4. There will be a need for good training for land consolidation, both in the public and the private sector in Armenia.

Proposal for a Package of Pilot Interventions

The members of the mission team recommend that the FAO, Subregional Office for Central and Eastern Europe, should support the efforts on the Armenian side through an FAO TCP project. This TCP project would have a duration of two years and would consist of a number of pilot interventions geared to facilitating the introduction of land consolidation in the country.

In designing this proposal the mission teams identified three key interventions that would make a great impact on establishing the practice of land consolidation in Armenia:

1. Support for land use planning and land consolidation in three pilot communities
2. A training package
3. Support in the drafting of guidelines

1. Introduction

Following discussions with the Governments of Armenia and Georgia the Food and Agriculture Organisation of the United Nations, Subregional Office for Central and Eastern Europe, commissioned two parallel Pre-Feasibility Studies on land consolidation and improved land management. The studies are intended to contribute to the development of an appropriate strategy for improved land consolidation/land management, incorporating elements of rural regional development. The goal of these studies is to offer concrete legal, conceptual, methodological and managerial proposals for the two governments and civil society in the two countries so as to improve rural livelihoods and to contribute to sustainable agriculture and rural development.

Field missions to the two countries took place between November 19th and November 30th. The team that reviewed the situation in Armenia consisted of Mrs. Karin Chluba (land consolidation and administration expert) and Prof. Einhard Schmidt-Kallert (expert in integrated rural development). The team was supported by an Armenian civil engineer, Mr. Felix Yegoryan. Preliminary results of the mission were presented to local stakeholders in a workshop held in Yerevan on November 29th.

The members of the mission would like to take this opportunity once again to express their appreciation for the excellent preparation and support they received throughout the mission from their host agency, the State Committee on the Real Property Cadastre of the Government of the Republic of Armenia.

Structure of the Report

The present report presents the findings and proposals of the mission to Armenia. The results of the Georgia mission are contained in a separate report.

Chapter 2 of this report gives an overview of the current situation in Armenia with regard to land management, agriculture and rural development. On the basis of this situation analysis chapter 3 discusses the pros and cons of land consolidation and whether land consolidation should be introduced at this stage. Chapter 4 presents a conceptual proposal for land consolidation in Armenia, while chapter 5 deals with the strategy for its introduction. The final chapter recommends a pilot intervention package for immediate implementation and for funding as an FAO TC Project.

Definition of Land Consolidation

The idea of land consolidation appears to be quite popular among government departments, NGOs and the interested public in Armenia. There is, however, a tendency to use the term land consolidation in the narrow sense of the word, i.e. land consolidation is mainly perceived as consisting of the amalgamation and re-allotment of plots and land parcels.

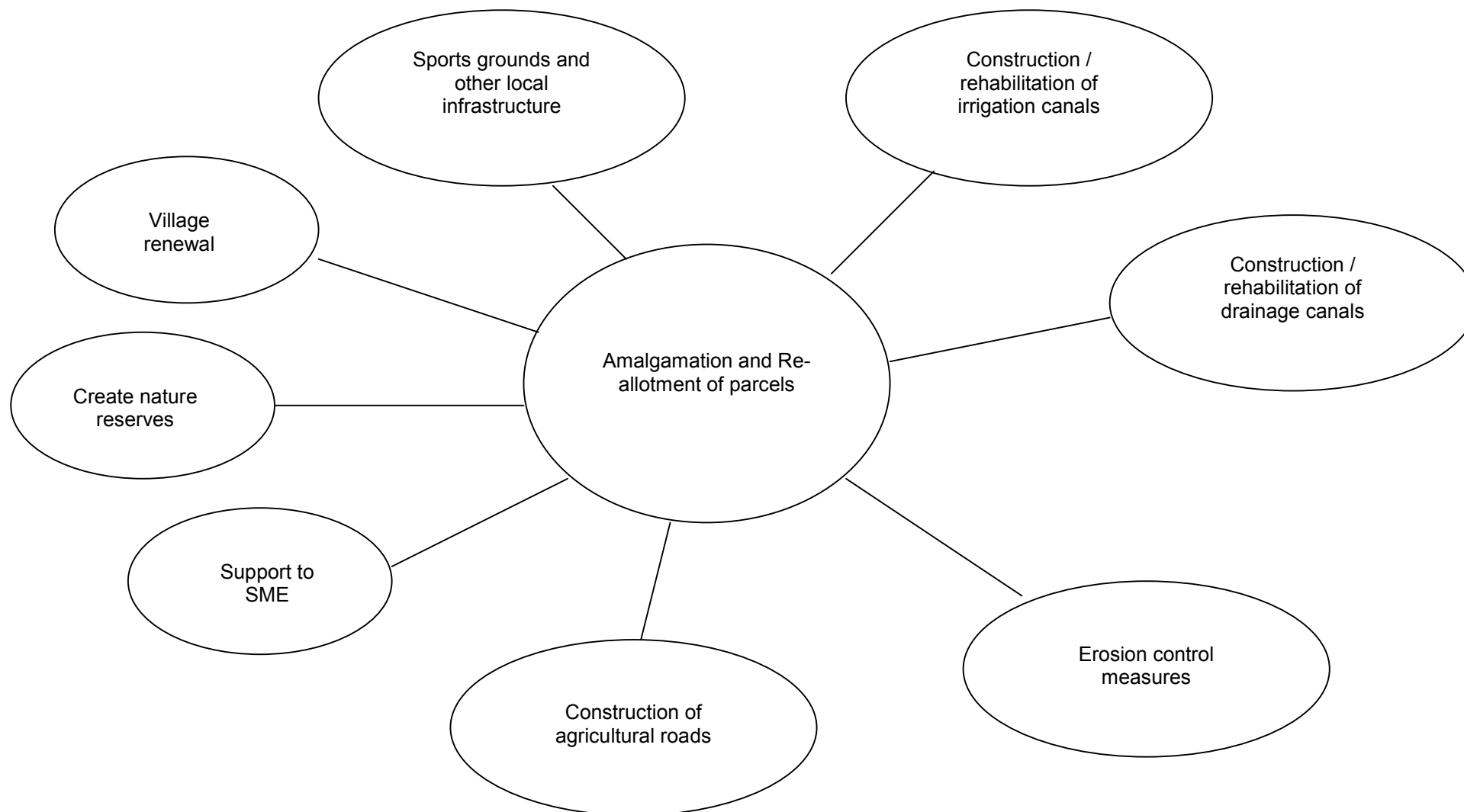
The members of the two mission team wish to reiterate that land consolidation also has a much broader definition whereby the re-allotment of parcels is placed in the wider context of spatial planning for the rural areas and whereby land consolidation is closely linked to integrated rural development at both local and regional level.

For the purpose of this report land consolidation has been defined as follows:

Land consolidation is a concerted effort towards rural development at the local level.

The term "*concerted*" implies that many actors are involved and many different interventions take place in the process of land consolidation. The type of possible interventions which form part and parcel of the land consolidation scheme are shown in figure 1 below:

Figure 1 Possible interventions in land consolidation



2. Situation Analysis

2.1 *Review of the Land Reform Process in Armenia*

After independence, the first stage of land reform in Armenia was land privatisation. During 1991-1993, Armenia almost completely transferred land property to smallholders and dismantled most of the former large-scale farms, i.e., the state farms and the agricultural co-operatives. At this time, farmland (arable land and natural grassland), cattle and agricultural equipment were rapidly privatised, as were single-family houses and flats in apartment blocks.

A large amount of co-ownership was created as a result of the fact that land and apartments were generally privatised as the property of families and not of individuals.

The government is currently undertaking a programme to issue title certificates and to establish the concomitant land registries, maps and services. It is intended to complete the programme in 2004. However, the schedule depends on the provision of additional foreign financial assistance. To date, more than 50% of the titling, including surveying and mapping, has been completed.

To put this programme into practice, an administrative structure has been established which consolidates responsibility for the legal title information and cadastral information within one organisation at the central government level. The State Committee on the Real Property Cadastre (SCC) is mandated to implement and manage the real property unified cadastre, land registration and topographic mapping. The Committee is also responsible for legal titles, cadastral boundaries, land use and land valuation. The Committee operates through 47 local offices, whose job is to execute the first title registration programme and implement and maintain the Real Property Cadastre.

Large land areas still remain in state ownership. Pastures and forests have not yet been alienated. So far, this land has been available to individuals through leasing. According to the new Land Code enacted by parliament in 2001, state-owned lands are to be alienated for agricultural purposes unless this is prohibited by legislation, i.e. land for nature conservation, land for common use (streets, parks, graveyards etc.) and land for public purposes etc. The authority to alienate state-owned land lies with community council leaders, Marzpets and state agencies (authorised by the government) in cases where enterprises are privatised. It is intended to sell those state-owned areas of land that are suitable for cultivation; this would potentially support the land consolidation process.

Similarly, urban land is not yet completely privatised. The process of land distribution between building owners, the local authorities and the state is ongoing.

Access to better maps is a pre-condition for first title registration and for the continuous maintenance of the cadastre. This also applies to planning and development in both urban and rural communities. However, recommendations given by the various donors have been mainly for the completion of the first title registration, the continuous operation of the cadastre, land consolidation, land valuation and mapping and surveying in general.

2.2 Review of Existing Legislation

The **Constitution of Armenia**, adopted in 1995, recognises and protects the right of ownership of land and other real property. It guarantees free development and equal protection of all forms of property including land and real estate. However, under exceptional circumstances the Constitution provides the State with the power to acquire private property for public purposes. Such acquisition should be accompanied by compensation to the owner.

The **Civil Code of Armenia, 1999**, abolished outdated rules governing private commerce and property, encourages free-market activities and guarantees individual property rights.

The new **Land Code**, enacted by parliament in July 2001, regulates all details concerning the rights and restrictions of ownership including land use. The law aims to facilitate sustainable development in the rural areas of the country.

With regard to land consolidation, the following regulations in particular may be important:

- State supervision of land use and maintenance (Art. 39 – Art. 43)
- The alienation of ownership rights to land parcels by exchange (Art. 71)
- Ownership rights in case of inheritance (Art. 95)
- Land consolidation and division of lands (Art. 97)

The goal of the new Land Code is to support development in rural areas. In particular, it is intended to stop the ongoing fragmentation of agricultural plots and to improve the enlargement of land parcels.

However, no specific regulation has been provided in the Land Code to deal with strategy, methods and measures concerning land consolidation.

According to the Land Code (Art. 40 – Art. 43), the application of land legislation, land use and land maintenance is to be carried out directly by the responsible authorized state body, regional administration (marz) and local authorities (community leaders).

The state-authorized body supervises the Marzpets in matters relating to land and is responsible for exchanges of state-owned land (Art. 71). The Marzpet are responsible for the implementation of land zoning and the development of land-use schemes and they supervise land use outside the administrative boundaries of the communities. Within the community boundaries, the community council leader supervises land relations, land-use boundaries and boundary marks. He also deals with the exchange of land parcels within the community, in accordance with Art. 71 of the Land Code (for the roles of the various government bodies see Section 2.11 of this report).

To prevent the further division of land parcels by inheritance, Art. 95 regulates that in the case of a landowner's death one of his sons (or other heirs), who wishes to do farming, will get the land and the others will be compensated.

However, according to Art. 97, the consolidation, change and division of land is allowed within the framework of the Civil Code and other existing laws.

2.3 Analysis of the Extent of Land Fragmentation

Armenia is the only country within the former Soviet Union where rural land property has been almost entirely transferred to smallholder farmers. Land reform was started in 1991 and completed in 1993. By that time 63% of all arable land, 80% of all orchards, 91% of all vineyards and 95% of cattle and sheep herds were in private hands.

People were given the choice of family ownership or collective ownership, but the vast majority opted for private ownership. Land allocation was done in a fairly equitable manner by dividing the total land area of a given community by the number of resident families. Families of more than three members were given double the standard allocation, families of more than six triple. On average, individual farms received a homestead plot and three different parcels of land, e.g. in the Ararat valley one vineyard, one orchard and one parcel for cereal production. In other parts of the country the people were given one irrigated parcel for vegetable growing, one parcel for field crops and a parcel of grassland. In mountainous locations the parcels were also differentiated by the gradient of the land. The amount of land distributed to the families, however, varied greatly between villages, since allocation was based on the village boundaries as they existed in 1938.

As a result of the privatisation programme 324,000 family farms have emerged, along with just 265 collective farms which mainly belong to a group of people of the same kin. The latest statistics issued by the State Cadastre Committee give the total number of farms in the country as 328,893 (See Annex 3), and the total area of privatised agricultural land as 399,275 ha. In reality the total number of farmers may be considerably higher due to subdivisions resulting from inheritance (on the basis of gavelkind tenure). Most of these subdivisions have not been registered. The number of farming households in the country could be as high as 380,000. Using the official statistics as a basis, average holding size in the country currently stands at 1.21 ha. The largest farm sizes are in Syuniq Marz (2.87 ha/farm), while the smallest are found in the fertile but over-populated Ararat Valley (0.48 ha/farm). Collective farms are considerably larger, averaging 20 ha /farm, but none are as big as the former collective farms in the time of the Soviet Union.

According to the statistics of the State Cadastre Committee there are 1.3 million land parcels in the country, which means that every farm household has three or four parcels of land. If the subdivisions by inheritance - which in most cases are not registered at the Local Cadastre offices - were taken into account, the real number of parcels and the degree of land fragmentation would be even higher. (It is worth noting here that Article 95 of the new *Land Code* explicitly bans subdivisions due to inheritance, but this may just lead to a proliferation of the informal practice).

However, the reality is even more complex. Not all farmers cultivate only their own land. During the privatisation exercise not all the land in the rural areas was privatised. In every community, 25% of each category of land was kept as state property. In addition, pastures (a total of 695,000 ha) were excluded from distribution. About 15% of the farmers lease land from village councils, usually for a period of between one and three years, and use this primarily as pasture. So in fact the average farm size of these farmers is 3.2 ha including the leased parcels.

Another factor which has a bearing on the degree of land fragmentation is migration and emigration from the rural areas, which has resulted in unofficial land consolidation, especially in the more remote and mountainous parts of the country (see Section 1.4 of this report). In areas where farmers have been able to cultivate consolidated parcels after the departure of their relatives and neighbours the extent of land fragmentation has been considerably eased. Obviously no reliable data are available on the extent of this phenomenon.

2.4 Land Tenure Security and Property Rights

Following the privatisation of both urban and rural land Armenia has made a major effort to implement first title registration. The process involves the systematic surveying of boundaries, the production of cadastral maps, the registration of parcels and legal rights in the cadastre and the issue of permanent title certificates.

Despite massive donor support registration has proved a lengthy process, the main bottleneck being the production of cadastral maps. Titles are issued by the 47 Local Cadastre Offices. Approximately 1.3 million titles for rural farm parcels need to be issued in the process. As of now, about 20% of the total number of parcels have been registered. The process is more advanced in Ararat and Amavir Marzes in the south, where nearly 80% of the titles have been issued. First title registration is expected to be completed by the end of 2004.

Land title certificates provide optimum security of tenure to the farmer. However, it is not always clear whether or not the farmers consider the issuing of the registration title as an added advantage over the privatisation as such. Even in those areas where title registration has hardly begun farmers consider their tenure to be sufficiently secure for all practical purposes. They know that the land has been given to them permanently. So the absence of the title certificate does not prevent them from investing in their land (e.g. planting trees or vineyards). Certainly they are also aware that the government is committed to the protection of private property and that registration is well under way.

Farmers with valid property certificates enjoy the additional advantage of being able to mortgage their property. This source of finance for the rural economy is, however, hardly used. For example Vedi Local Cadastre Office in the Ararat Valley, which has issued 70,000 first title certificates so far, recorded only 300 applications for mortgages last year. The reasons may be twofold. On the one hand Armenian farmers are not yet used to mortgaging their property. On the other hand Armenian Banks (including Agrobank and the Agricultural Co-operative Bank of Armenia) rarely accept rural properties as collateral. In most cases they prefer liquid collateral such as gold bars or motor cars. Apartments in Yerevan would be accepted as collateral, agricultural land only in prime locations, i.e. in the Ararat Valley.

Where farmers have obtained mortgage loans, they have been mainly used for short-term input supplies such as seed, pesticides and fertilisers. Long-term loans are currently not available from the banks operating in the rural areas.

2.5 Status of Land Markets

Rural land markets are still emerging. Prior to 1995 no sale of rural lands occurred. Even now the number of registered land sales is very low in the rural areas. During the first ten months of 2001 the 47 Local Cadastre Offices registered only 3000 transactions involving agricultural land. The reasons for this low number appear to be the following:

- Prices for agricultural land are low, thus people do not sell unless an emergency forces them to sell their land or part of it.
- People attach a high sentimental value to the land that they received just a decade ago. They feel it is too early to dispose of their land at this stage.

- Experience in the last decade has shown that cultivation of the land has been the primary means of survival for a great number of Armenian people. Even those who migrate away or emigrate hold on to the land as a means of livelihood for future emergencies.
- In comparison to the prices obtained from land sales the registration process is tedious and the fees are high (US\$ 2 registration fee and up to US\$ 40 notary fee)

Prices for agricultural land in the Ararat Valley are currently US\$ 800 to 1000 per ha; information on land prices in other parts in the country was not available to the members of the mission, but obviously these prices would be much lower.

It would appear that most people who sell agricultural land are trapped in an emergency situation, and many of them stay in the rural area and continue to eke out a living on rented land. As already mentioned, migrants or emigrants rarely sell their parcels. It would appear that buyers are mostly farmers from the same community, especially people who own land immediately adjacent to the parcel being sold.

In the absence of an active market for agricultural land, informal practices dominate. People who leave their village temporarily or permanently give their parcels to fellow villagers to cultivate. These may be relatives, but also neighbours or friends. Occasionally a compensation or informal rent is paid for the use of the land, but most people who have left the country do not expect any compensation. In the village of Shahunyan in the Ararat Valley, which was visited by the members of the mission, the village councillors know of 40 such cases. Shahunyan is a community of 1200 families and has recorded the emigration of 400 people over the last three years. From other parts of the country the practice of sharecropping was reported.

The members of the mission received no reports of informal exchanges of land parcels.

Leasing of farmland is fairly widespread. 15% of all the farmers in the country lease state land from their respective Community Councils. This figure may be either smaller or larger depending on the size and quality of the state land reserve in the village concerned. In some villages the state land reserve consists of parcels hardly suitable for cultivation at all due to waterlogging, salinity (as in many villages of the Ararat Valley) or steep gradients.

Leasing of farmland within the community and among villagers is not very widespread, with the exception of the informal arrangements between families that have migrated away and their kin or neighbours in the village as already mentioned.

There are, however, a limited number of commercially minded farmers who have been able to create larger agricultural farms of up to 20 ha through leasing. Leases of agricultural land are normally granted for a period of up to 25 years (this applies to farmers' property, while parcels from the state land reserve are usually leased for a very short period of up to three years). There are also some cases of big livestock farmers/companies leasing more than 100 ha, sometimes even as much as 1000 ha, of grassland as pasture (e.g. one such case was reported from Kotayk Marz).

2.6 Land Management Initiatives by the Government

There is a considerable discrepancy between the land values given in the ownership certificates (which are used as the basis for taxation) and current market values. In the Ararat Valley the values given in the certificates are roughly double the market values, as was ascertained by the members of the Mission in a rapid appraisal in Vedi Local Cadastre Office. Indications are that the discrepancy is even greater in the remoter parts of the country.

The State Cadastre Committee is aware that its official land values are largely fictitious and bear no relation to the market values. Official values are still based on a formula introduced in Soviet times, which was mainly tied to the potential income that could be derived from the land. The *GIPROZEM Institute* has been commissioned by the State Cadastre Committee to elaborate **a new methodology for land valuation** based on three factors, namely

- the market value
- the soil quality
- proximity to the homestead

Once this exercise is concluded official land values will be closer to real market values. A pilot project on updated land valuation has just been started in 15 communities. Valuation maps and a database on land values are to be produced with the support of donor funding.

The second important government intervention in the agricultural land market pertains to the **sale of the remaining state land** in the communities. The Government has decreed that all remaining state land be transferred to the communities within two years. Land that is not needed for public purposes is to be auctioned to individuals. This process has in fact already started in Kotayk Marz, where the state reserve has been auctioned to the public in four selected communities. In these pilot cases less than half of the local landowners took part in the auction. Most of the buyers obtained parcels of up to 2 ha, but there were occasional cases of buyers bidding for 10 ha or more.

The auction will be a unique opportunity for commercially oriented farmers to enlarge their holdings, the more so since auction prices are expected to be below market value. However, as already mentioned, the quality of the remaining state land reserve varies greatly from one community to another. Especially in the Ararat Valley, where the pressure for more land is the highest, much of the state reserve suffers from waterlogging, salinity and/or defunct irrigation systems. Moreover, the sale of the remaining state land is likely to aggravate the problem of land fragmentation in some communities.

A third government intervention that has a bearing on land management concerns the use of **land as collateral for credit**. Outside observers have variously criticised that the mortgage sections of the *Civil Code* lack any provisions establishing procedures for the enforcement and foreclosure of mortgages. Hence the reluctance of the banks to accept property as collateral. A Law on Forced Executions of Judicial Acts, which is currently in preparation, may fill this gap. It is hoped that once the new law is in place the number of mortgages on agricultural land would increase, thus providing the rural populace with an important source of funding for investment.

So far government initiatives to improve land management have been confined to the central level of Government. There are no land management interventions by the marzes. The communities do play a role by issuing leases for state land. Indications are that in issuing the leases some community council leaders did not exercise the same degree of fairness as was exercised in the initial allocation of land to individuals. With the full transfer of state land to the communities their role in land management is bound to increase further.

2.7 Review of Ongoing Land Consolidation Efforts

About two years ago, the SCC recognized the need for land consolidation measures. It therefore decided to promote the land consolidation process by drafting appropriate programmes based on the principles of voluntary land consolidation and encouragement. From these, the SCC selected two measures. First, legal regulations were implemented to prevent further fragmentation of agricultural land and, second, international experts were invited to advise the SCC about methods already existing in Europe.

With the adoption of the new Land Code in July, legal regulations were introduced to stop land fragmentation, implement consolidation measures, conserve rural areas and support land use planning (see Section 2.2 of this report).

After approval of the new Land Code, the SCC started the land consolidation process in Armenia with a pilot project in eight communities in the Ararat Valley.

The project is based on a proposal by Swedesurvey submitted in 2000, supported by SIDA. It concentrates on promoting the merging of land parcels on a voluntary basis.

As the implementation of enforced land consolidation in the short term might not be acceptable to the landowners, the government decided to start with voluntary land consolidation. Moreover, the land market is not yet active due to certain problems in rural areas, i.e., lack of off-farm employment, disadvantageous market situations etc. (see also Section 2.5 of this report). Figures about land leasing activities are not available. *However, some landowners have sold or leased their land parcels without registration. In addition landowners who live or work abroad have left their plots to neighbours or members of the family for cultivation.* Farmers own several small land parcels, but due to the principle of distribution, they have parcels of each category of land quality. It has to be said that these conditions are in fact unfavourable to enforced land consolidation.

The disadvantage of this method is that it overemphasizes a single aspect of the development of the community at the expense of a holistic view. The main problem is the fact that the objective of a good real property structure will in all likelihood never be attained by this strategy, and so the total costs and the duration of the project cannot be estimated.

During our mission, we visited one of the pilot communities (see Annex 4). In Shahumyan community the pilot project started with two parallel programmes: land consolidation and a land use scheme.

Up to now, only 15 transactions (selling/buying) on the land market have taken place in the village. The high registration costs and the lack of off-farm employment in rural areas since the privatisation of factories were given as reasons. Some "non-registered" transactions such as leasing or donating were also reported.

Land use planning has been started in addition to the land consolidation in the pilot communities. The project will be carried out by GIPROSEM (see 2.11). According to information from GIPROSEM, the land use planning will be based on the old long-term regional perspective planning done 20 years ago. Moreover, there is no definite time schedule for the land consolidation pilot projects.

For this reason the duration and total costs of the pilot project are unknown.

So far a questionnaire has been prepared and the Terms of Reference for land use planning have been drawn up. The questionnaire was given to a large number of farmers, but to date less than half of them have answered it. The reason could be that the procedure is new and more public information may be necessary.

The procedure of elaborating the land use plan is supposed to be as follows:

- As a first step, Terms of Reference are to be drawn up by the community council leader and agreed upon with the inter-sector commission (established by the government).
- The Terms of Reference should consist of general provisions, distributions of the land fund according to targeted, functional purposes and according to land types and soil improvement requirements
- The elaboration of a land use plan is to be carried out by GIPROSEM.
- Once elaborated, the plan will be published in the community for public review and discussed by the community council.
- Afterwards, it will be approved and coordinated with state bodies authorized by the government.

2.8 Review of Armenian Agriculture and Rural Development

Agro-Ecological Conditions

Arable land is limited in Armenia. The country is mountainous, with only 28% of land below 1,500 m altitude. Only 20% of the land is suitable for cropping and large parts of the country can only be used as pasture.

Rainfall in the crucial period between May and August is often erratic and inadequate, thus irrigation is essential to ensure satisfactory crop development. 273,000 ha of land were formerly irrigated, but out of this only 220,000 ha have systems in a satisfactory state of repair.

A large number of different agro-ecological zones can be identified in Armenia. To put it in simple terms, Armenia can be divided into at least three agricultural zones, namely valleys, foothills and mountainous areas.

The country suffers from ecological degradation in various respects. There is a lack of drainage and a high incidence of salinity in many valleys, especially in the fertile Ararat Valley. Degradation of pastures has reached an alarming rate in the high mountains, and soil erosion in both the foothill and mountain areas has increased in the wake of privatisation. Small-scale farmers have disregarded the requirements of soil conservation in their cropping pattern, and numerous trees (including fruit trees) were felled for fuel in the first few years after independence.

Overall Development of the Sector

Despite these adverse ecological conditions, agriculture plays an extremely important role in the economy of the country. The sector accounts for 30% of the GDP (as compared to 19% before transition) and for 42% of employment.

Following the land reform and due to the decline in per capita income, cropping patterns in Armenia changed radically in 1991 and 1992. A major shift has taken place towards the cultivation of basic food crops for home consumption at the expense of fodder crops (due in turn to a low demand for livestock products as a result of the reduced purchasing power of consumers), fruit trees and vineyards (resulting from reduced export market outlets) and industrial crops (due to the reduced capacity of agro-processing). As a result Armenian agriculture has been transformed into a mixed crop/livestock farming economy. 20% of farm households cultivate only crops, whereas only 2% of the farms specialise in livestock. Currently, grains (wheat and barley) account for 59% of the total cropped area followed by potatoes and vegetables (13%), grapes and other fruit (8%) and pasture (remaining 20%). Crop and livestock production yields are low as a result of the use of small quantities and poor qualities of agricultural inputs and inadequate farming practices.

The main shift was from a market orientation to smallholder farming for subsistence needs with some market orientation. The majority of the farmers produce a substantial proportion of their produce for home consumption.

Production of major crops can be described as follows: 301,000 tons of cereal/grain crops were produced in 1999. Production showed no marked fluctuation over the last five years. Production of potatoes (the second major subsistence crop) was 414,000 tons in 1999 (an 80% increase over 1994), vegetables 436,000 tons (a 15% decrease from 1994), melons 88,000 tons (60% increase), fruits and berries 87,000 tons (53% decrease) and grapes 114,000 tons (35% decrease).

Total meat production in 2000 was 36,830 tons and milk and dairy production was 267,000 tons.

Despite the important share of agriculture in the national economy, Armenia is heavily dependent on food imports. The most important import commodities are wheat (73% of the domestic demand has to be imported), sugar (100%), vegetable oil (nearly 100%), meat (52%). The country is self-sufficient in potato production, vegetables, fruit and fish. The imports come mainly from Iran, Germany, Turkey and the USA (in order of value of imports).

Armenia exports cognac, wine, beer, vodka and juices. The value of food imports by far exceeds the exports. Last year the total value of food imports amounted to US\$ 220 billion while the value of food exports was only US\$ 30 billion.

Since 1997 the Armenian Ministry of Food and Agriculture has pursued a programme for food security (*"Programme on Socio-Economic Reforms in Agricultural and Food Sectors"*). The programme targets the export surplus for a number of products where the country has a comparative advantage over certain other countries (especially for fruits, vegetables and grapes) and seeks to contain import dependence for livestock products and grains. However, the ultimate success of this programme depends largely on the ability of the country to re-establish its food processing industry and to establish new market outlets for international exports.

It must, moreover, be added that a clear agriculture development strategy has not been worked out as yet. The country probably has to take a decision as to whether it intends to pursue an outward oriented strategy, placing the main emphasis on production for export markets, or whether an inward oriented strategy would be more appropriate. With the support of the FAO the Ministry of Agriculture is currently in the process of elaborating a *"Strategy for Sustainable Agricultural Development of the Republic of Armenia"*.

Farmers' Socio-Economic Situation

According to a study jointly commissioned by the World Bank and the European Union in 1998, average cash farm revenues from the sale of agricultural produce were equivalent to US\$ 420 while total farm output averaged US\$ 1,400. Income from barter constituted about 10% of the total farm revenues. These figures show that market transactions accounted for less than 50% of farm incomes. In the absence of up-to-date income figures one can safely assume that this situation has not changed substantially over the last three years. There may be a slight increase in market oriented activities due to some improvements in the agro-processing sector.

It must, however, be added that many rural dwellers pool income from different sources. In the villages visited by the members of the mission about 20% of the households receive additional income from the salaried work of at least one family member, mainly for government agencies (e.g. teachers, nurses, irrigation attendants), in some cases also from retail or other trading outlets. Income from agro-processing is less widespread; probably less than 10% of the village households supplement their income by agro-processing. Cash remittances from Armenians abroad are another important source of additional income in rural households.

Marketing and Agro-Processing

Armenian farmers these days primarily produce to meet the immediate needs of their families and sell only a limited volume of surplus. It has been estimated that home consumption and barter account for up to two thirds of consumption of domestic produce.

Moreover, in the process of privatisation the former marketing channels collapsed completely. It was largely left to the farmers to find access to the market on their own. As a result farmers and traders have developed a variety of different ways of marketing agricultural produce.

In the villages localised circuits of barter have emerged where any surplus that can be absorbed by the local economy is exchanged. In summer and at the end of the growing season farmers from the Ararat Valley hire minibuses and vans to take their vegetables and other fresh produce to the wholesale markets in Yerevan. Prices are low because everybody sells at the same time. Farmers could get higher prices if they could store their produce until the winter or even spring. But the cold storage facilities of the old system are largely defunct, and only very few farmers have been able to invest in refrigeration facilities of their own. For the marketing of grapes for wine production contracts exist between the wineries and the farmers from one particular area or village. The same is principally true of the relationship between the canneries in the Ararat Valley and farmers, though since privatisation most of the canneries have been working at very low capacity as they have not yet been able to establish new market links to potential export markets. Meat is bought up by traders from the villages.

A large number of food and agro-processing enterprises (including some of the big wheat mills) are not operating or working only at very low capacity, which further reduces the competitiveness of the output. What is even worse is the almost complete absence of processing facilities at village level.

Farm processing is potentially very important. The key to the long-term improvement of the rural economy probably lies in this sector.

But there are some signs of hope. Since 1995 the number of food processing enterprises has more than doubled. There are now 7785 such enterprises registered, mostly SMEs. However, as of now these new enterprises employ very few people. The total number of jobs created in the new food processing enterprises is given as 14,500. Obviously there is a need for many more village based food processing enterprises in all parts of the country.

Access to Farm Inputs, Credit and Extension

Private traders are the main source of supply for farm inputs, with the exception of vaccines and veterinary drugs which are supplied through government channels. Supplies are readily available but expensive. Tractors and other farm machinery are also available to the farmers. Less than one third of farmers have their own machines, two thirds rent machinery from private entrepreneurs or have some informal arrangements with neighbours for the use of machines, as was confirmed by the members of the mission during their field visits.

The main sources of finance for farm households are their own savings in money or in kind kept at home, remittances from relatives and informal credit received from friends and neighbours. Data obtained from the above-mentioned World Bank/European Union farm survey show that nearly two thirds of the farmers borrow small amounts of money, mostly from relatives and friends, in order to finance their farming operations. The role of commercial banks in lending to small farmers is still limited. According to a survey conducted by UNDP in 1999 only 3% of the farmers received loans from banks. This may be surprising since Armenia has received substantial donor support for the rural finance sector over the years.

Currently Agrobank is present with branches in all parts of the country and the Agricultural Co-operative Bank of Armenia (ACBA) will have branches in all marzes by 2002. The ACBA is the only co-operative commercial bank in Armenia with a strong devotion to the agricultural sector and a particular focus on and specialisation in financing small farmers. It was founded in August 1995. The EU TACIS programme has supported the establishment of the ACBA with grant capital and technical assistance.

The banks give mainly short-term loans, not exceeding one year. This means that there are hardly any loans available for long-term investments by the farmers. The main types of farm investments for which farmers seek external finance are the purchase of livestock, house repairs and construction and the purchase of farm equipment.

A system of agricultural extension has been set up in the country since 1993, initially with the support of USDA (the United States Department of Agriculture) and more recently with the support of the World Bank. After various trials the system has been reorganised a number of times. Currently the extension agents are based at Agricultural Support Marz Centres in each of the ten marzes. There are 120 extension agents who go to the field to advise farmers. The centres have recently been placed under the supervision of the Armenian Agricultural Academy. Only an estimated 20% of Armenia's farmers are reached by the system. Given the fact that at the time of privatisation a large number of Armenian farmers had no training background in farming, a much stronger extension effort is required.

Rural Infrastructure

Rural infrastructure has deteriorated considerably in most areas since independence. Most villages are still accessible by road and do have electricity and often gas lines, but many rural roads are in a very poor condition and the power lines installations are prone to frequent breakdowns and repairs.

Maintenance of the country's extensive irrigation network poses another problem. Of the total 273,000 ha of irrigated land only 220,000 ha is effectively irrigated at present. WOROGUM, the state-owned irrigation corporation, currently provides irrigation water to 160,000 ha, while 51,000 ha are irrigated by local providers. Substantial areas are not irrigated at all at present because of payment arrears on the part of the farmers or because the farmers have not cultivated their land. Maintenance of the entire system is poor; probably 50% of the system requires major rehabilitation.

The same can be said of rural schools and other social infrastructure.

2.9 Spatial Planning for the Rural Areas

Following the demise of the Soviet Union spatial planning was neglected in Armenia for almost a decade. The last physical development plan for the whole Republic was drawn up by GIPROZEM and dates back to the 1980s. A new Draft Regional Development Plan has recently been prepared by the Ministry of Regional Planning. This document is soon to be presented to the Government for comments and further deliberation. Once this national physical plan has been approved, regional development plans will be drawn up for each of the marzes.

A law has recently been tabled in the National Assembly stipulating that all community councils in the country should prepare a land use plan for their respective areas of jurisdiction. Currently a number of local land use plans are being prepared in various parts of the country on a pilot basis. The above-mentioned pilot schemes for land consolidation in Ararat Marz and Armavir Marz will be combined with land use planning. In Kotayk Marz there are currently 19 land use plans in preparation. In about three years time all the communities in the country are expected to have their own land use schemes.

In the opinion of the members of the mission, the process of land use planning is an ideal opportunity to enter into a dialogue with the local population regarding development visions and scenarios for future development at the local level. Unfortunately most government officials consider land use planning primarily as a technical assignment, and to a much lesser extent as an opportunity for community interface. The members of the mission would therefore recommend taking advantage of the opportunities arising in the context of drawing up new land use schemes by introducing an element of community dialogue (see Chapter 4 of this report).

2.10 Ongoing Projects in the Fields of Agriculture and Rural Development

The most important ongoing donor-supported projects and programmes in the field of agriculture and rural development are the following:

- The **Food Security Programme of the European Union**, which has been in operation since 1996 and which provides assistance to the Ministries of Agriculture, Statistics and Social Security and to the State Cadastre Commission (total value of European funds: 9 million Euros). The programme provides budget finance to the Ministry of Food and Agriculture. Investments are concentrated on drainage rehabilitation this year and on the provision of vaccines for next year.
- The **World Bank** supported **Agricultural Reform Support Project (ARSP)**. This project, which became operational in 1998, facilitates the provision of training and technical advisory services to agribusiness enterprises. It provides assistance to an

agribusiness support centre and regional support centres and assists in the restructuring of public agricultural support services such as research and extension. It also includes a credit line targeted at the agricultural sector and operated through qualifying commercial banks (total WB loan 14.5 million US\$).

- The **IFAD** financed **North-West Agricultural Services Project (NWASP)**. The main aim of this project, which covers three mountainous provinces in the north-western part of the country (Shirak, Lory, and Aragatsoth Marzes), is to combat rural poverty and improving the living conditions of the target population in mountainous areas by helping them to increase their agricultural production, income, and food security levels. High priority is given to project interventions that promote the active participation of the population in their own development activities and to support for grass-roots level organisations such as water user associations. The project also includes a rural finance component channelled through the Agricultural Co-operative Bank of Armenia (total loan volume of the entire project: US\$ 12.9 million, duration 1998-2001).
- **IFAD Agricultural Services Project (ASP)**. This follow-up project to the NWASP with an equivalent value of US\$ 14.5 million will expand the existing project activities from three to eight disadvantaged marzes. Among other things it includes a small enterprise development component and an agricultural lending component (project start 2001, duration four years).
- **The United States Department for Agriculture's (USDA) Marketing Assistance Project**: This project started in 1996 and provides both technical assistance and loans for agro-processing activities. Total available loan funds amount to US\$ 3.7 million.
- A **GEF funded Conservation of Agro-Biodiversity Project** has been prepared by the **UNDP**. Funding arrangements are not complete yet, but the project is expected to start in 2002. The project is intended to produce a mix of cost-effective in situ conservation practices in selected communities and their surrounding natural environment. Among other things the project would re-establish pasturing schemes favourable to agro-biodiversity and strengthen the traditional knowledge that helps to maintain the diversity of agro-ecosystems.

For the setting up of the cadastral system and land registration Armenia has received substantial amounts of assistance from the following donors:

- The **EU Food Security Programme** supported land surveying, registration and the issue of title certificates from 1998 to 2001 (the share of total programme funds for this component is US\$ 3 million)
- The **World Bank Project**, with a total allocation of US\$ 10 million (including counterpart funding from the Government of Armenia), has given funding to a substantial portion of the surveying and mapping work. Local cadastre offices have been provided with IT equipment. The project started in 1999 and is due to be completed by the end of 2002.
- **USAID** provided grants worth US\$ 5 million between 1998 and 2001, which were mainly assigned to technical assistance. Technical assistance was given through an American consulting company. The activities included assistance in the drafting of land laws, training in valuation methods and information campaigns.
- **The Swedish International Development Co-operation Agency (SIDA)** has provided assistance to the State Cadastre Committee in the field of capacity building and training (total funding US\$ 600,000, duration 1999-2002). The project focuses on technology support and technical updating and strengthening of the geodetic network, real property market appraisal and the pilot project in land consolidation.

- A Technical Assistance Project by the **Government of Switzerland** has just been started. Project duration will be 18 months and the project provides a Swiss grant of the equivalent of US\$ 900,000. On the Swiss side the project will be executed by the Swiss Federal Office of Topography. Project interventions will include the purchase of modern Swiss geodetic instruments, training workshops and the production of orthophotos.

2.11 Brief Description of the Main Stakeholders

In 1995 the Constitution initiated the decentralisation process in the country. A three level system of territorial administration has been established: central government at national level, regional administration and self-governance at the local level.

One of the most important stakeholders on the national level is the **State Committee on the Real Property Cadastre (SCC)**. It is mandated to implement and manage the unified real property cadastre, land registration, geodesy and topographic mapping. The Committee is thus responsible for legal titles, cadastral boundaries, land market monitoring and analysing, land valuation and the development of land management.

Working as subordinate units of the Committee, 47 **local offices** have to execute the first title registration programme and implement and maintain the Real Property Cadastre. The SCC employs a total of 1000 people, of whom 95 are based at its headquarters.

The Joint Stock Company **GIPROSEM** is subordinate to the Committee and has less than 100 employees. GIPROSEM was formerly the "State Institute of Land Planning" and is now totally owned by the SCC. Under the supervision and leadership of the Chairman of the SCC, GIPROSEM develops strategies for land use planning, implementation methods for urban and rural development and valuation and tests these methods in ongoing pilot projects.

At regional level, the country is divided into ten **Marzes** (territorial administration centres), with six further Marzes in Yerevan. Each Marz has an administrative leader called the Marzpet, who is appointed by the Prime Minister. As far as land consolidation is concerned, Marzes are responsible for general administrative supervision, for the management and land planning of state-owned land outside community council areas and for regional development projects. They are not independent territorial bodies, but executing units of the state administration. They are not involved in title registration and land surveying.

Local self-government was introduced in 1993 as the third level of the **territorial administration**. The 931 communities are independent territorial bodies and are responsible for local administration as well as for detailed land use planning within their community boundaries.

The **Ministry of Agriculture** is mandated to develop a conceptual agricultural plan for the whole country. Currently it is still not clear what agricultural strategy the Ministry will pursue. The plan is still being elaborated (see Section 2.8 of this report).

WOROGUM, a water irrigation company, is a closed joint stock company under the Department of Water Resources. The company is responsible for the construction and reconstruction of the irrigation systems and for water distribution. In 2002 12 private companies will be established on the regional level under state authority (see also Section 2.8 of this report).

In addition, there are several **farmers' associations**. The “**National Union of Farmers**” (**NUF**) is a non-governmental organization established in 1998. It represents the interests of 340 economic entities located in different regions. The union promotes agricultural development, provides services like training in marketing and financial management and co-operates with international associations.

The **Republican Association of Potato Producers (RAPP)**, also a non-governmental organization, aims to contribute to the development of potato production and marketing.

2.12 Brief institutional appraisal

As land consolidation is a very complex procedure, an administrative structure commensurate with this task must be available.

This raises two essential questions: are the existing administrative bodies and organizations able to take over these tasks or must new institutions be created?

First of all, it must be pointed out that the current pilot projects were initiated by the SCC. The execution was left to GIPROSEM, while the SCC assumes a supervisory role.

In addition the SCC is already responsible for some essential basic aspects of land consolidation. The estate register, the land register and the evaluation were developed in the SCC and are continuously updated there. In addition the SCC is able to set up homogeneous regulations and guidelines within the framework of its national responsibility.

Through its local offices the SCC is also comprehensively represented in all regions of the country. So the necessary basic data can be provided on the local level.

However, the SCC does not dispose of specialists in the fields of agriculture, irrigation, farm road building, marketing and village renewal.

The SCC is the right agency for the introduction, co-ordination, training and supervision of land consolidation. All the other authorities and organizations which should participate in the process are too specialized to be considered for the role of the lead agency for implementation.

2.13 Assessment of Beneficiaries' Interest in Land consolidation

The farmers' interest in land consolidation is closely linked to their socio-economic status, the type of farming they are engaged in and their broader aspirations. Though privatisation and distribution of farmland were done on the basis of fairly egalitarian principles, a new stratification has meantime emerged in Armenian rural society.

As the Armenian rural scene is still in a state of transition it is difficult to give a clear picture of socio-economic strata. However, broadly speaking one can differentiate between types of farms:

Type A: Small-scale family farm with 0.5 to 4 ha of land, mostly mixed farming with production of staple foods (wheat and/or potatoes), some fruit and/or vegetables/grapes and a small number of livestock, 50-60% production for subsistence needs, limited production of marketable surplus, family labour, no hired farm labour, annual cash income from farming between US\$ 300 and 800

More than 85% of all farms in Armenia are of this type.

(Note: the respective percentages of livestock, staple and fruit/vegetable production vary from one agro-ecological zone to another, but the basic rationale remains the same: risk minimisation through a combination of subsistence and market-oriented production).

Type B: Larger family farm with 5 to 12 ha, depending on the agro-ecological zone, market orientation dominates, outside labour is hired on a temporary or semi-permanent basis, market channels for at least one line of production have been established, the farm household has invested in farm machinery, annual cash income from farming is US\$ 1500 or above

Less than 15% of all farms in Armenia belong to this group.

Type C: Large crop farm with more than 20 ha, produces exclusively for the market, has well established market outlets, employs agricultural labourers on a permanent basis, owns modern machinery, may be operated by a family, an individual or a company, annual revenues above US\$ 5000

Less than one per cent of all farms in Armenia come into this category.

Type D: Large-scale livestock ranch with more than 100 head of cattle/more than 400 sheep, produces exclusively for the market, has well established market outlets, employs agricultural labourers on a permanent basis, may be operated by a family, an individual or a company, annual revenues above US\$ 5000

Again less than one per cent of all farms in Armenia are of this type.

It is obvious that the vast majority of farms in Armenia belong to Type A and that the better part of all the land area is cultivated by small family farms of this type. But it is important to note that though the farm households of Type A display a fairly uniform picture in terms of basic socio-economic parameters, they differ in terms of their aspirations for the future. One can basically differentiate between three different orientations:

Type A1: The first group consists of farmers who are interested in improving their family farm by increasing the share of market production, by increasing productivity and by increasing their holding size if given the opportunity to do so.

Type A2: The second group is made up of people who took up farming after privatisation because the labour market did not offer them any choice. They would prefer to make a living from off-farm employment while maintaining their family farm as a sideline. They are interested in consolidated parcels, but not in a bigger holding size as such.

Type A3: The third sub-group, too, consists of people who took up farming after privatisation because the labour market did not offer them any alternative. They do not consider farming as their primary vocation. They would give up farming as soon as there was adequate off-farm employment to make a decent living. They consider farming as a temporary coping strategy, and do not care much about land consolidation or any other form of improvement to their farming operations.

This very diverse pattern of differing aspirations must be borne in mind when assessing the farmers' interest in land consolidation.

The farmers of Type A1 currently see their biggest problems as land fragmentation, lack of irrigation and lack of marketing channels. All these problems need to be tackled simultaneously.

Type A2 farmers want consolidated parcels and good irrigation, but are not so much concerned about marketing, as they consider farming in the long run as a means of supplementing their family income with produce from their own soil.

Type A3 farmers have no particular interest in any form of agricultural development; they are primarily oriented towards finding non-agricultural employment. In the long run their land could be a reserve for increasing holding sizes of the Type A1 farmers.

Type B farmers more often than not have already solved their marketing problems, but they are greatly interested in better irrigation infrastructure, agricultural roads and larger land parcels.

As the members of the mission had no opportunity personally to interview representatives of farming Types C and D it is difficult to define their specific aspirations and requirements.

As Armenia's rural scene is dominated by family farms, Types A1 to A3 and Type B constitute the bulk of the farming households anyway.

2.14 Brief Appraisal of Prospects for Economic Diversification/Off-Farm Employment

As a result of privatisation, a lot of factories in urban and rural areas that produced to supply the market in the former Soviet Union were closed down, causing considerable unemployment in the whole country. Thus the privatisation of land, livestock and agricultural equipment was important for the people in rural areas, and farming seems to be the only source of income in these regions. But privatisation also led to a large number of small farms with fragmented land parcels, which allow production mainly for subsistence; only a small share is produced for the market, on average from 20% to 40%. In addition, ineffective production, soil erosion and other environmental problems result from the lack of experience in farming.

To stabilise the situation in the agricultural sector, the number of farms needs to be reduced, and the size of holdings needs to be enlarged to a minimum of about 3-4 ha. As a consequence, about 30% of farmers will have to give up farming and work in other sectors or continue farming only on a part-time basis.

Therefore sweeping improvements in agriculture can only be expected if land consolidation is part and parcel of a multifaceted rural development. The creation of off-farm employment opportunities is a key element in improving rural livelihoods.

At present, there are few off-farm employment opportunities in the rural areas. Most of the manufacturing plants located in the rural areas in Soviet times have gone out of production or now produce at very low capacity. Likewise the number of jobs in the service sector, in vocational and other training institutions and in the health sector has decreased since the transition to a market economy. Apart from agriculture there are currently limited job opportunities in the agricultural supply sector, in farm mechanisation workshops, in the servicing of the irrigation system and, to some extent, in simple processing of agricultural produce.

Given the country's existing and the potential agricultural production, agro-processing in the following fields can be considered promising:

- Production of dried fruit (especially apricots)
- Fruit processing (jam, tinned fruits, juice production)
- Vegetable processing (tomato paste)
- Wine production
- Vegetable production in greenhouses
- Apiculture and honey processing
- Dairy processing, especially cheese production
- Collection, processing and packing of medical herbs
- Collection, drying and packing of other wild herbs (mint, menthol etc.)

Agro-ecological conditions are particularly favourable for the first four production lines. There may be market niches on the world market for the production of dried fruits, processed fruits and vegetables and wine. For example, the study team was informed that Switzerland is interested in importing tomato paste from Armenia. An American fruit export and import company based in California has established initial contacts to import dried apricots, which are considered to be of higher quality than those currently imported from Turkey. The study team was also informed that in Kotyak marz a number of small and medium-scale agro-processing companies have been set up over the last 24 months. The biggest of these companies, which currently employs about 40 people, is engaged in the production of fruit juice. In some cases Armenians who have worked outside the country for a period of time have invested their savings in agro-processing.

3 Summary of the Situation Analysis: Pros and Cons of Land Consolidation in Armenia

From the above situation analysis it becomes clear that Armenian farmers suffer from a number of interrelated problems which hamper the full development of their potential. Farmers are faced with excessive land fragmentation. The irrigation system, which was originally set up to serve the needs of Soviet agriculture, is not commensurate with the needs of small-scale family farming. There is a lack of market outlets and processing facilities for farm produce, and there are very few off-farm employment opportunities in the villages. These manifold problems are inextricably interlinked.

At this juncture the question that should be addressed is whether an established procedure of land consolidation (as defined in Chapter 1 of this report) would make a useful contribution towards the solution of the Armenian farmers' multiple problems?

In our view a number of factors can be enumerated which could be construed as arguments in favour of land consolidation:

1. There is a high incidence of land fragmentation in most parts of the country.
2. There is a lack of basic farm infrastructure in the rural areas (agricultural roads, irrigation schemes and drainage systems).
3. There are too many small farms in the country.
4. By and large the farming methods employed are very inefficient.
5. Parcels are uneconomically shaped.
6. There is a need for soil conservation and other erosion control measures.
7. In some places there is a need for village renewal.
8. There is a high demand for agro-processing industries to be set up at village level.
9. The land registration process is well advanced.
10. There is experience of land use planning at village level.

On the other hand there are a number of obstacles which would make land consolidation extremely difficult:

1. There is not only land fragmentation but also multiple ownership.
2. Land markets are just emerging.
3. Many farmers have very little experience in cultivation.
4. Quite a lot of new legislation has been enacted within a short period of time; a new law on land consolidation might not be acceptable in the short term.
5. There are currently very few off-farm employment opportunities in the villages that would provide alternative employment for those farmers prepared to give up farming.

6. Armenian agriculture is still in a transitional situation; the future role of agriculture and agro-processing is not entirely clear.

When weighing up the above arguments in favour of and against land consolidation in Armenia, one can draw the following conclusion:

The time is ripe to introduce a procedure for land consolidation in Armenia, as this would provide a framework for tackling the multiple problems with which rural communities are faced simultaneously. However, as the rural areas of Armenia are still in a situation of transition, **highly flexible** approaches are required. The conceptual proposal presented in the following chapter is intended as a response to this requirement.

4. The Proposed Concept for Land Consolidation

As could be ascertained in the mission team's pre-field visits (see Section 2.13 of this report) a large number of Armenian farmers are highly interested in improving their farming operations through land consolidation. However, the farmers' needs and aspirations are by no means uniform. They differ in terms of the type and intensity of interventions they would like to see in their respective communities.

Land consolidation will never be successful if it is introduced through a “top-down” approach. Moreover, land matters are still very sensitive in Armenia, barely ten years after privatisation. The State Cadastre Committee has therefore formulated the express condition that any reallocation of parcels and amalgamation of land must be 100% voluntary. All these factors suggest that the process of land consolidation needs to be started with a broad awareness campaign among all property owners. A nationwide awareness and information campaign may be useful, but more importantly there needs to be awareness building and open debate among participating farmers at the community level before land consolidation is embarked upon in any particular settlement.

In the eight pilot land consolidation schemes that have been started by the State Cadastre Committee land consolidation is being combined with land use planning. In the opinion of the members of the FAO mission this is a very good approach, as the process of land use planning offers ample opportunities to discuss possible future courses of action for development at the local level. Land use planning can be used as a vehicle for awareness building on land consolidation and all related rural regional development issues. If land use planning is conducted in a participatory manner it will be much easier to win the support of the local farmers for a subsequent land consolidation project. The members of the mission team propose that every land consolidation scheme should be preceded by a land use planning effort. The land use plan would also provide the basis for decisions on the type of interventions most urgently needed to improve the livelihood of the local population, the rural economy and localised economic circuits. In the course of land use planning it would become clear what type of land consolidation would be appropriate in each situation.

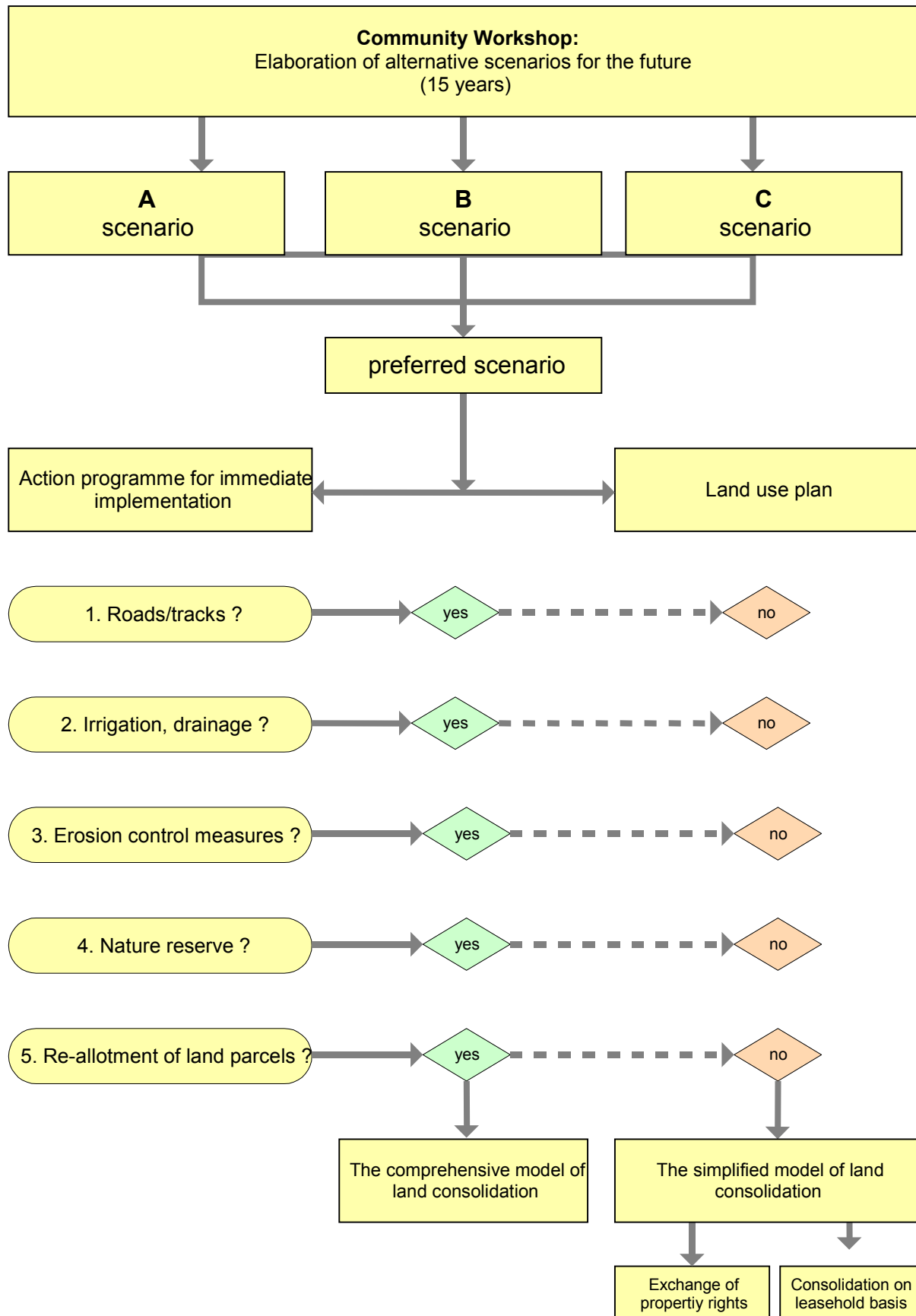
The mission team proposes two alternative models for the process of land consolidation, depending on the complexity of the tasks to be tackled:

- The first one is a simplified model, which would focus on the re-allotment and amalgamation of land parcels on a voluntary basis and which would try to encourage leaseholds within the community. This model can be started if at least 40–50% of property owners agree to participate.
- The second one is a more comprehensive model, which would incorporate considerable civil works such as the construction of new irrigation networks and agricultural roads and which would include the re-allotment of all land parcels in the community. This model requires 100% participation of all property owners in the community.

4.1 Land use plan

Technical expertise for land use planning at the community level exists in the country. The GIPROZEM Institute is currently in the process of elaborating land use plans for some of the communities that were selected for pilot schemes in land consolidation. The land area of the community is classified in terms of suitability for different land use categories. A number of agro-ecological parameters are also taken into consideration before the technical team sets out its proposed future land use pattern. The methodology employed by GIPROZEM is sound. However, the mission team would advocate the introduction of an element of community participation (see Figure 2: Land use planning).

Figure 2: Land Use Planning



Land use planning should start with an analysis of existing conditions by the technical team. As agriculture will remain the mainstay of the rural economy for a long time to come, special emphasis needs to be placed on the analysis of soil types and other factors determining agro-ecological suitability for the various types of agricultural land use.

This phase, i.e. analysis of the current situation, should be followed by a community workshop in which alternative scenarios for the future development of the community are presented to all the citizens who wish to attend. Representatives of the most important sector agencies such as the Ministry of Agriculture, WOROGUM and the Ministry of Regional Development should also be invited to attend the workshop.

Basically the function of this “scenario stage” of the land use planning process is, expressed colloquially, “to take a look into the future” and to depict the possible, likely and preferred future development of certain phenomena within this spatial and economic structure. In other words, scenarios are complex qualitative forecasts, which can also be presented in the form of very broad and simple land use maps.

A fundamental function of this stage is to create an understanding among the local population that the future continually offers new, imaginable, alternative possibilities. There is more than one option open. Therefore it is so important to work out contrasting scenarios. A scenario planning requires a clear and recognisable difference between the current situation and the expected end situation depicted in the scenario. A 15 year time horizon is recommended. At the end of the scenario workshop the participants would take a decision on the preferred scenario, which could be either one of the scenarios presented by the planning team or a blend of elements from the various scenarios presented.

Following the scenario workshop the planning team would further elaborate the land use plan, showing the detailed boundaries of the various land use categories such as forest use, horticulture, crop planting, nature reserve, physical infrastructure in the settlement pattern.

The preferred scenario along with the land use plan would also provide the basis for deciding on the type of interventions that need to be implemented in the short term. This could be called an action programme for immediate implementation. Implementation would take the form of a land consolidation scheme.

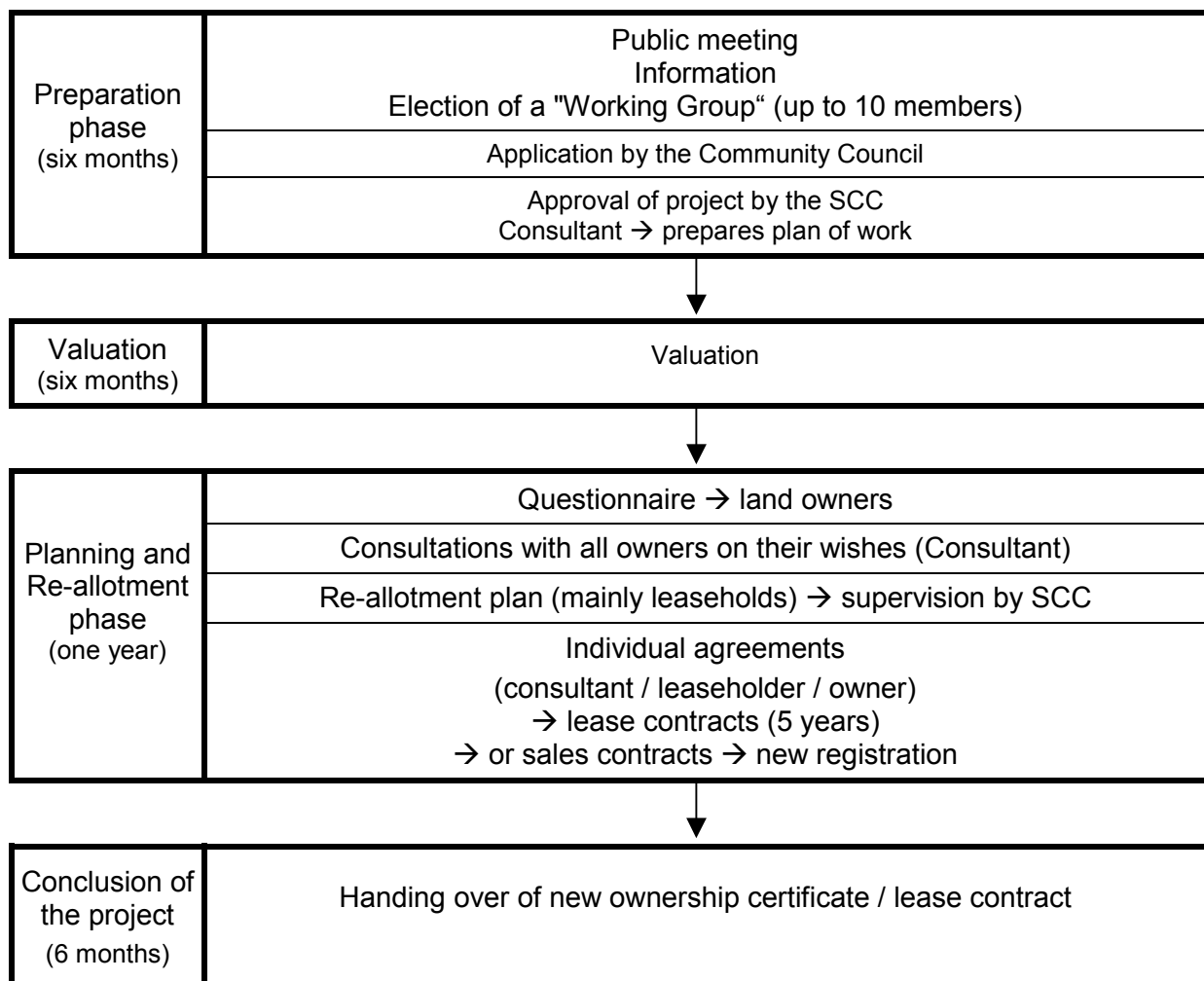
If the main emphasis in the community is on the re-allotment and amalgamation of land parcels, the action programme could be implemented in the form of the simplified model of land consolidation. If there is a need to combine amalgamation and re-allotment of land parcels with improvement to the irrigation system, construction of new farm roads etc. it would be more appropriate to opt for the comprehensive model of land consolidation (see Figure 2: Land use planning).

4.2 *The Simplified Model of Land Consolidation*

The simplified model of land consolidation does not require the participation of all property owners. It is, however, recommended that at least 40–50% of all owners should participate. The model consists of four phases:

- a preparation phase
- a valuation phase
- a planning and re-allotment phase
- a conclusion phase.

Figure 3 The Simplified Model



The preparation phase:

To start the project, a public meeting will be called by the State Cadastre Committee on the initiative of the community. The purpose of the meeting is to disseminate up-to-date and comprehensive information about the process of land consolidation. It will be proposed that the participants form a working group, in which the landowners will be represented. The landowners will elect the members by a vote.

Other important government agencies, such as representatives of the Ministry of Agriculture or the State Committee on Water Resources, may also be invited. If necessary, there will be a series of public meetings.

Subsequently the community council will officially apply to the State Cadastre Committee to start a land consolidation project. Following approval for the starting of land consolidation in that particular community, the State Cadastre Committee will appoint a consultant for the implementation of the project (normally through competitive bidding). The State Cadastre Committee will also develop a cost estimate, a broad timetable and a cost-sharing formula for the project. Based on these parameters the consultant will prepare a more detailed plan of work.

Valuation:

The consultant will reach agreement with the working group on whether a new valuation is required or not. If the consolidation consists mainly of parcel exchanges on a leasehold basis a new valuation may not be necessary. Should a valuation be required, it could be done in the same way as described for the comprehensive model (see below).

Planning and re-allotment phase:

This is the most important phase of the entire project. First of all, the consultant will invite all the landowners to participate in land consolidation. Then he will hold in-depth consultations with each individual landowner to find out about his/her respective wishes and requirements for future agricultural use of the land and ultimately for the new allotment. On this basis he will elaborate a preliminary re-allotment plan. This plan will then be submitted to the State Cadastre Committee for approval. After that the consultant will encourage and facilitate leasehold contracts or sale contracts between the landowners. Subsequently the landowners will have their contracts registered.

It is recommended that the minimum duration of leasehold contracts should be five years. Initially the main emphasis would be on encouraging parcel exchanges through leaseholds. This reflects the current state of development of land markets in Armenia.

Conclusion of the project:

To conclude the project the new land parcels will be registered with the State Cadastre Committee local office. In the case of sales, the new landowners will receive a certificate of entry into the land registry. The consultant will deliver the completed documents to the State Cadastre Committee.

4.3 The Comprehensive Model of Land Consolidation

The comprehensive procedure (see Figure 3) will consist of six phases:

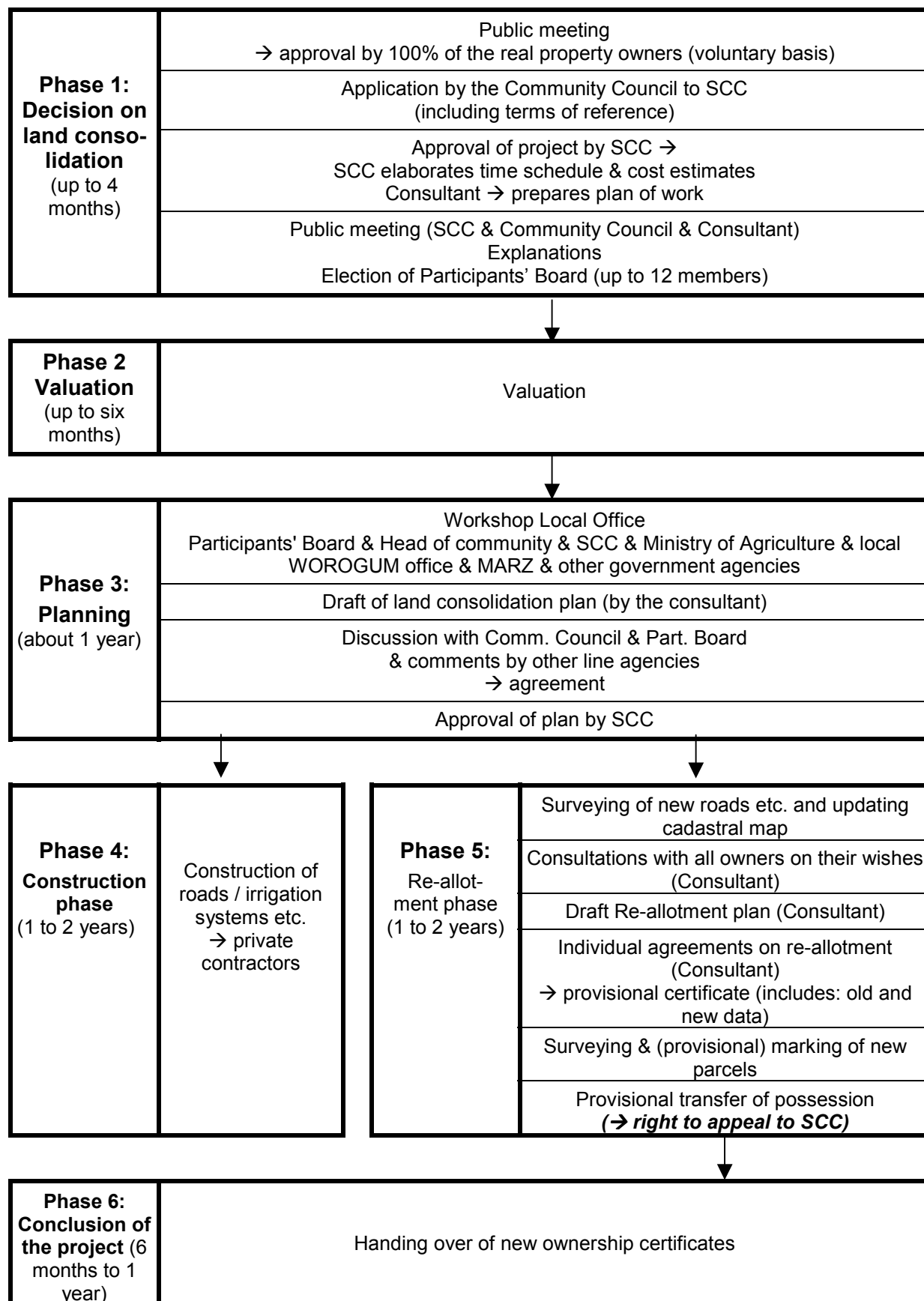
- a decision on land consolidation
- a valuation
- a planning phase
- a construction phase
- a re-allotment phase
- a conclusion phase

Decision on land consolidation:

To start the project, the State Cadastre Committee will call a public meeting on the initiative of the community. The purpose of the meeting will be to give up-to-date and comprehensive information about land consolidation procedures to the farmers. Other relevant government departments may also be invited. If the comprehensive model is to be implemented, 100% of the real property owners in the community must be in favour of land consolidation, since the process must be strictly on a voluntary basis. Thus good information and public relations are of paramount importance.

After the meeting the community council will officially apply to the State Cadastre Committee to implement comprehensive land consolidation in that particular community. Following its approval, the State Cadastre Committee will appoint a consultant for the implementation of the project (based on tender and competitive bidding). In addition the State Cadastre Committee will determine the exact boundaries of the land consolidation project area and prepare a cost estimate and timetable for the procedure and the cost-sharing formula.

Figure 4 The Comprehensive Model



Once appointed, the consultant will take all the required preparatory steps. All existing data (maps, land use plan, land register) will be reviewed. Subsequently he will do site inspections and ground checks on the validity of the land use maps. He will then prepare a preliminary design of the future farm road and watercourse plan.

Then the formal approval for the land consolidation project will be processed by the State Cadastre Committee. All landowners will be informed of the decision.

In a second public meeting the Participants' Board will be elected. This will be done through a ballot of all the landowners in the community. The meeting will be chaired and facilitated either by a representative of the State Cadastre Committee or by the consultant.

Valuation:

The valuation process consists of four steps:

- preparation
- public meeting
- elaboration of a proposal for the valuation
- decision on the valuation.

Preparation of the valuation

This is one of the most important steps in the valuation of land parcels. The valuation must be easy to understand and transparent for everyone. Thus the following process is recommended:

The consultant will prepare the valuation. He will draw up a framework, which will be presented to the Participants' Board. This framework will be discussed first with the Participants' Board and subsequently with the community.

Public meeting

Once the framework has been prepared a public meeting will be held. The proposed framework will be presented to the landowners. Then site inspections in the community will be conducted jointly with the landowners. Samples will be taken from the best and least valuable soils in the locality. Adjustments will be made to the framework based on the results of the site inspections.

Preparation of a proposal for the valuation

In the subsequent weeks all land parcels within the land consolidation area will be inspected and valued. The consultant will prepare valuation maps, which will be publicly displayed and available to all landowners.

Farmers should be involved in the valuation process. However, the farmers' representative should not come from the same community, but rather from a neighbouring community. Farmers need to be trained for this activity. Potential candidates for this important task can be selected by the consultant with the assistance of the Participants' Board.

It is recommended that two evaluation frameworks be drawn up, one for soil type (differentiated by irrigated arable land, non-irrigated arable land, natural grassland, pasture, etc.) and one for perennial plants and trees (e.g. vines). This means that the value of trees and vines can also be included in the valuation.

Decision on valuation

Upon completion of the valuation proposal, the results will be presented to the public. If the landowner disagrees, he has the right of appeal to the State Cadastre Committee.

Planning phase:

The planning phase will start with a workshop with the Participants' Board, the community and all important government agencies. At this meeting the basic principles of planning will be discussed. In particular the following government agencies will be invited:

State Cadastre Committee, local office
Representatives of the Ministry of the Environment
Representatives of the Ministry of Agriculture
Representative of the Ministry of Regional Development
State Committee on Water Resources (or WOROGUM)
The Community Council leader
The head of the MARZ
Members of the Community Council

Other important government agencies will also be invited if their presence is required for the tasks at hand. On the basis of the discussion with the various stakeholders the consultant will elaborate a draft farm road and watercourse plan. This will be discussed with the Participants' Board and the community at large. If need be, additional meetings with important government agencies will be held. Once all the relevant government agencies, the Community Council and the Participants' Board have approved the planning, the plan will be submitted to the State Cadastre Committee for approval. It is also recommended that the plan be put on display to the public.

Construction phase:

The various civil works, such as the construction of new irrigation canals and new agricultural roads with small bridges and culverts will be put out to tender to local contractors. It may also be possible to include a self-help element in the construction of these civil works.

Re-allotment phase:

At the beginning of this phase the consultant will hold detailed discussions with all landowners on their wishes and requirements for the new allotments. He will then elaborate a preliminary re-allotment plan. This plan will be submitted to the State Cadastre Committee for approval. (Note: Phase 5 can commence in parallel to the construction phase, especially in view of the fact that the consultations with all the landowners will be quite time-consuming.) To conclude the consultations with the individual landowners the consultant will sign individual agreements with all landowners on their re-allotment. After that surveying and marking of the new parcels will take place, and the landowners will receive their new plots, together with provisional property rights certificates.

Landowners who disagree have the right of appeal to the State Cadastre Committee.

Conclusion phase:

To conclude the project all new land parcels will be registered at the State Cadastre Committee Local Office. The landowners will receive a certificate of entry into the land registry. The consultant will deliver all completed documents to the State Cadastre Committee.

4.4 *The main players, their roles and responsibilities*

Land consolidation as defined in this report is an integrated task that requires interdisciplinary expertise. It aims at the improvement of rural livelihoods and deals with land matters, irrigation, rural infrastructure, land use planning and spatial development at the local level. Various ministries and government agencies in Armenia need to be involved in the process.

The mission team recommends that the State Cadastre Committee be assigned the role of the lead agency in land consolidation. This Committee keeps the cadastral maps and the registry of property rights. Easy access to these records is the key to successful land consolidation. Moreover, various observers agree that the State Cadastre Committee is one of the best organised government agencies in Armenia. It is well equipped to assume the leading and coordinating role in land consolidation.

The Department of Land Construction at the central level of the State Cadastre Committee, which is currently in charge of land consolidation in the country, is a fairly small unit consisting of only five professionals. Their fields of expertise comprise geodesy and civil engineering. As of now there is no in-house know-how about agronomy and agro-economics within the State Cadastre Committee. Initially, the small land construction department may be sufficiently staffed, but once land consolidation gets into full swing more professionals will be needed at this level.

Land consolidation needs to be well coordinated with the Ministry of Agriculture, the Ministry of the Environment, the Ministry of Regional Development and the State Committee on Water Resources (for details see Chapter 5 of this report). The specific responsibilities of the other ministries in the land consolidation process have been explained in Sections 4.2 and 4.3.

The mission team further recommends that the implementation of individual land consolidation schemes should be entrusted to private consultants. The private consultants would be appointed following competitive bidding at an early stage and would be in charge of the scheme throughout the process. Thus the State Cadastre Committee would mainly play a supervisory and backstopping role. For the private companies taking part in the tenders it would be important to present multidisciplinary teams consisting of a surveyor, an agro-economist and/or rural sociologist, a lawyer, a civil engineer and a land use planner/spatial planner.

The mission team recognises that as of now the type of multidisciplinary and holistic expertise required does not exist in the country. Thus it would be essential to provide good training for land consolidation, both in the public and the private sector in Armenia. It is recommended that this training be provided through donor-funded projects (see Chapters 5 and 6 of this report).

4.5 *The Interface with Regional Rural Development*

Land use planning at the local level should be part of rural regional development. Local land use plans should fall into line with spatial development for subregions or watersheds and with the objectives for spatial development at the marz level. As of now spatial development planning at the marz level has not yet started. This applies both to the government system and to civil society. There is no public debate on regional development goals and on possible development visions at the regional level. This is exemplified by the two marzpets interviewed by the mission team, who expressed only very vague ideas about their preferred development vision. Understandably they are preoccupied with stopgap measures.

It is therefore recommended that the process be started at the local level in the first few pilot schemes for land consolidation. Obviously, at a later stage, the various land use initiatives at the local level need to be coordinated at subregional and regional level. But within the confines of its Terms of Reference the mission team cannot make recommendations for the setting up of regional planning in general.

4.6 Cost-Sharing Between the Stakeholders

A fully fledged land consolidation scheme is a fairly costly affair. The cost of the consultant's contract for planning, mapping and the very essential consultation process with each individual landowner must not be underestimated. The complex model for land consolidation will require at least three years to complete. Depending on the size of the community there will be a need for one or two experts from the consultant's team to work on a permanent basis. In addition short-term expertise will be required for particular elements (e.g. surveying, legal matters, elaboration of plans). It is recommended that a cost-sharing formula be developed, sharing the cost between the State Cadastre Committee, the Community Council and the landowners of the particular scheme concerned. For example, the State Cadastre Committee as the overall supervisory body could bear 25% of the total cost, the Community Council 50% and the individual landowners 25%.

Physical investments that take place as part of the land consolidation scheme (e.g. rehabilitation or reconstruction of the irrigation network, agricultural roads, erosion control measures) should be funded by the respective line ministries or wherever possible from donor funds. As of now donor funding for such investments in rural areas is given under World Bank and IFAD projects (see Section 2.10 of this report). It would be essential that the priorities of these donor-supported projects be synchronised with the agenda for land consolidation.

In order to reduce cost of civil works it may also be possible to introduce a self-help element in the construction of secondary irrigation canals and agricultural roads.

4.7 The Proposed Legal Framework

The members of the mission envisage that the introduction of land consolidation would take place in three phases:

- The first phase would mainly comprise land consolidation schemes following the simplified model, with an emphasis on leaseholds.
- In a second phase there would be more pilot projects of the comprehensive type, based on a government decree, but still without specific land consolidation legislation.
- The third phase would involve drafting a Land Consolidation Act based on the experience gained from various pilot schemes; land consolidation would then be introduced throughout the country.

The following paragraphs outline some of the salient features of the legal framework to be introduced in this third phase.

Any land consolidation encroaches fundamentally on property rights. Therefore strict legal regulations are necessary to ensure legal protection of the property rights. Every landowner must have the right to check the regulations that affect his property. Thus a special Land Consolidation Act would be helpful.

First of all, it must be clarified who is responsible for the process, the approval and the inspection of any instance of land consolidation. In addition the most important phases of the procedure and the rights of the landowners should be defined.

It is recommended that the following steps in the land consolidation process be regulated:

- decision on land consolidation
- evaluation of plots
- construction of farm roads, irrigation systems etc.
- re-allotment of the plots
- cost-sharing
- the conclusion of the procedure

It is recommended that the law should specify who could apply to start a land consolidation scheme. It might be decided that the landowners could apply for a scheme if more than 50% of the landowners in a community agree. Land consolidation might cover parts of a community or the entire community.

The level of the valuation of the plots represents the basis for the exchange of the plots. There must be the possibility of appeal against the valuation. If parts of private plots are needed for the building of a new farm road or irrigation canals, the compensation should be legally regulated. The same applies to the new allotment of the plots. For example, the following regulations are conceivable:

- Every landowner has the right to be allotted land of equal quality. The value may differ only by a maximum of 10% from the value of the old plots, unless the landowner agrees. Value changes must be compensated for fundamentally in land. A landowner can also be compensated in full in the form of money if he consents to this. Compensation for essential components (trees etc.) is fundamentally effected in money.

If the landowner has to pay part of the cost of the procedure, the option of having these costs checked should be included. The same applies to the formal conclusion of the procedure.

The law should also specify further details of the procedures for regulation. Or it should allow for the regulation of further details in guidelines.

As described above, the most important phases of the land consolidation should be regulated by law. Prior to the passing of the Land Consolidation Act, the legal regulations must be replaced by individual contracts. This applies in particular for procedures on a leasehold basis. In these procedures the ownership would not change. All arrangements would be made on a contractual basis.

The SCC has decided to develop guidelines on the basis of the experience gained in the pilot projects. This is certainly reasonable.

It is recommended that the following fields be regulated, initially, in guidelines:

- responsibilities of government agencies and others
- the scheme of the procedure
- drafts for cost estimates
- draft contracts for the new allotment on a leasehold basis and for ownership changes.

In the long term it should be decided which aspects should be regulated by law and which can be regulated by guidelines.

5. A Strategy for the Introduction of Land Consolidation in Armenia

If the proposed concept for land consolidation is acceptable to the Government of Armenia and is approved by the major stakeholders a strategy for the introduction of land consolidation procedures will be required. In this chapter some initial ideas for such a strategy are presented in the form of a logical framework matrix.

The project has been conceived as an internal Armenian Government project, not as a donor-sponsored project. Donor support could, however, be envisaged for various components.

The project aim will be to achieve a situation where:

"A system of land consolidation has been established in Armenia and is operational."

In order to achieve this, four project results have to be attained:

1. The institutional framework for land consolidation has to be set up.
2. A pilot programme in land consolidation has to be successfully implemented.
3. A training programme for land consolidation has to be put in place.
4. The legal framework for land consolidation has to be created.

To some extent the order of these four results also represents a sequence in terms of time. The project needs to start with putting the institutional framework in place. The pilot programme and the training programme could be implemented simultaneously. The lessons learnt from the pilot programme will provide an essential input for the legal framework. Thus the legal framework would be put in place only once experience from the pilot projects has been evaluated.

In the following the main project activities and the intended project results will be briefly described.

5.1 The institutional framework for land consolidation

Preparations are already under way to set up an interministerial task force on land consolidation. The members of this task force, under the guidance of the SCC, will be representatives of the Ministry of Agriculture, the Ministry of Regional Development, the Ministry of the Environment and the State Committee on Water Resources. This task force will act as a steering committee for the introduction of land consolidation in Armenia. First of all the task force should elaborate a common understanding of land consolidation and strategic guidelines for the land consolidation process.

The task force will also decide on roles and responsibilities in the process of land consolidation. This concerns in particular the roles and responsibilities of the various government agencies in relation to private consultants and other players from the private sector.

It is recommended that as a next step the Construction Department of the SCC should be entrusted with the introduction and coordination of land consolidation in Armenia. The construction department would thus assume the role of a project management unit for land consolidation. In essence the SCC would be responsible for the supervision of the process and for giving its approval to important documents and milestones.

The main responsibilities of the Construction Department would be the following:

- Draft guidelines for land use planning
- Draft guidelines for simple land consolidation schemes
- Draft guidelines for comprehensive land consolidation schemes
- Elaborate guidelines for public relations work and information to the landowners
- Selection of the pilot communities
- Training of consultants, members of Community Councils and members of participants' boards
- Appointment of private consultants
- Approval of individual land consolidation schemes
- Supervision of re-allotment plans
- Dealing with appeals by landowners
- Collation of experience gained in the pilot schemes.

The guidelines for land use planning, for simple land consolidation schemes and for comprehensive land consolidation schemes need to be discussed and finally approved by the interministerial task force. The task force would also have to devise a cost-sharing formula for land consolidation projects (see also Chapter 4.6 of this report).

5.2 *The pilot programme in land consolidation*

In addition to the experience being acquired in the eight villages in the Ararat Valley where land consolidation has been started on a pilot basis, experience also needs to be gained with the approach elaborated in Chapter 4 of this report (participatory land use planning, to be followed either by the simplified model or the comprehensive model of land consolidation).

First of all the task force needs to agree on a set of criteria for the selection of the pilot schemes. Then a minimum of two and a maximum of ten villages would be selected for the pilot scheme. In a subsequent step the task force would agree with the community leaders - and possibly with outside donors - on the financing scheme for the pilot projects. Then a tender would be issued for the appointment of a consultant for the execution of the pilot project. The pilot schemes would then be implemented according to the approved guidelines (possibly following the general approach outlined in Chapter 4 of this report).

It is of the utmost importance that the lessons learnt from the pilot schemes should be thoroughly evaluated. This would be the basis for updating the guidelines and also for the provisions of the Land Consolidation Act to be drafted at a later stage.

5.3 *Training programme for land consolidation*

Neither the public sector nor the private sector in Armenia is well prepared for land consolidation as defined in this report. The relevant knowledge with regard to the legal framework, the cadastral system, the agro-economy and regional planning is scattered over different ministries and government agencies. Moreover there are at present no consultants in the country who would be able to tackle the interdisciplinary task of land consolidation in all its aspects. The ultimate success of land consolidation in Armenia therefore hinges to a large extent on tailor-made training measures for all the main players in government and in the private sector.

It is thus recommended to start with a training needs assessment of the government departments involved, the private sector, Community Councils and participants' boards. As relevant experience from other countries would be of great value for this task, it is recommended that outside consultants should be involved. The mission team also suggests seeking donor funding for training courses in land consolidation. A comprehensive programme of short-term training curricula should be designed on the basis of the training needs assessment. The trainers would come both from local training institutions and from outside the country. At the end of the training courses for private consultants exams would be held and the participants would be issued with certificates attesting that they had been introduced to the interdisciplinary aspects of land consolidation. These certificates would also help in the evaluation of tenders for the individual land consolidation schemes.

5.4 *Legal framework for land consolidation*

As already mentioned the experiences from the pilot schemes should be thoroughly evaluated. On the basis of this evaluation the interministerial task force would determine the need for legally binding regulations on land consolidation. Laws and other legal instruments would be drafted by legal experts within the SCC and other government agencies. Models from other countries such as Sweden, the Netherlands and Germany would also be taken into consideration. The drafting committee would also examine which existing laws need to be changed and which regulations and provisions need to be included in the new Land Consolidation Act. The drafting committee would then forward its draft to the interministerial task force. Subsequently the draft would be tabled in the National Assembly and enacted as an act of parliament.

It remains to be seen whether in the long term the emphasis in land consolidation will be on changing property rights or on leaseholds only. As long as the thrust is on the changing of leasehold relationships then guidelines will be sufficient. However, as soon as there are any great numbers of exchanges of property rights, legally binding regulations in a Land Consolidation Act will become indispensable.

6. Proposal for a Package of Pilot Interventions

On November 29th, at the end of the field mission for this study, a workshop was held in Yerevan to present the conceptual proposal for land consolidation in Armenia to the main stakeholders, namely the State Cadastre Committee, the representatives of the Ministry of Agriculture, the Ministry of the Environment and the State Committee on Water Resources. The proposal presented by the visiting mission was well received by those present at the workshop. In particular the concept of land consolidation as an integrated and holistic approach to improve rural livelihoods was endorsed. Undoubtedly a concerted effort by the various government agencies will be a prerequisite for the success of land consolidation in Armenia. Efforts to set up an interministerial task force are already under way.

The team members recommend that the FAO, Subregional Office for Central and Eastern Europe, should support the efforts on the Armenian side through an FAO TCP project. The duration of this TCP project would be two years and it would consist of a number of pilot interventions geared to facilitating the introduction of land consolidation in the country.

In designing this proposal the mission team identified certain key activities in the logical framework matrix presented in Chapter 5 that would make a great impact with regard to achieving the desired results. The proposal highlights those activities which would benefit from outside experience and expertise.

The proposed package would consist of three main elements:

1. Support for land use planning and land consolidation in three pilot communities
2. A training package
3. Support in the drafting of guidelines

6.1 Support for Land Use Planning / Land Consolidation in Three Pilot Communities

It is recommended that the FAO TCP project give support to land use planning and land consolidation in three villages. In all the three villages the process of land use planning would be completed within the first six months of the TCP project. Upon completion of the land use planning in two of these communities land consolidation according to the simplified model would be started; in the third the comprehensive model would be applied. The two involving the simplified type would be completed by the end of FAO TCP project funding. In the case of the comprehensive model the first three phases of the process, namely the decision on land consolidation, the valuation and the planning, would be completed. The construction phase and the re-allotment phase would be implemented afterwards.

It is proposed that the entire consulting costs would be met from FAO TCP funding. This includes the cost of the local consultants appointed to steer and implement the land consolidation process in the three pilot villages. It would also include the short-term assignment of international consultants to provide backstopping both for the Construction Department of the State Cadastre Committee and for the local consultant. Apart from general backstopping the international consultants would in particular assist in the following activities:

- Preparation and facilitation of a scenario planning workshop
- Preparation and moderation of the various public meetings in the process of land consolidation
- Assistance in devising an appropriate valuation method
- Assistance in the drafting of the land consolidation plan

The assignments of the international consultant would add up to a total of two to three person months spread over the entire period of two years.

Special care has to be taken in the selection of villages for the pilot interventions. The mission team recommends the selection of villages from different ecological zones, e.g. from the valley, from the lower mountainous regions and from the higher mountainous regions.

In addition the following criteria for the selection of the pilot schemes should be applied:

1. Incidence and degree of land fragmentation
2. Size of the settlement (the pilot villages should not have more than 400 landowners)
3. Attitude of the local population towards land consolidation and rural development initiatives in general
4. Interest and willingness of the Community Council
5. Availability and quality of the state land reserve in the community
6. Prospects for small-scale agro-processing and related off-farm employment
7. The land registration process must have been completed in the community, so that cadastral maps would be available.

6.2 *The Training Package*

Beside support for pilot land consolidation schemes the FAO TCP project should include a training component providing training to civil servants, private sector consultants, community councils and participants' boards. A minimum of three main activities is recommended.

1. The training needs assessment, to be jointly conducted by an international and an experienced local consultant (duration 1.5 months)
2. A pilot training course on land consolidation for civil servants and consultants from the private sector; duration of the training course - 10 days; preparation of the syllabus and evaluation - approximately three weeks (involving two local and two international trainers)
3. Training courses for members of community councils and participants' boards; duration of the course - 3 days; preparation and evaluation - approximately two weeks (training input: one international and two local trainers)

If possible the two types of training courses should also be replicated during the period of the FAO TCP project. The training course for community councillors and participants' boards will be specially geared to the needs of the target group from the three pilot villages.

6.3 *Support in the Drafting of Guidelines*

It is also recommended that the drafting of guidelines be supported by the assignment of short-term international consultants. The proposed assignment periods would be as follows:

- Guidelines for land use planning: 0.5 person months
- Guidelines for the simplified model of land consolidation: 0.5 person months
- Guidelines for the comprehensive model of land consolidation: 1 person month

Cost Estimate of Pilot Interventions

I. Land Use Planning / Land Consolidation	
1. National consultants	<ul style="list-style-type: none"> national consultant team (elaboration, training, supervision) 3 persons / 2 years 3 national consultant teams for the three pilot communities 9 persons / 2 years (expenses: ~ 400 \$ US / person / month)
2. International consultant	<ul style="list-style-type: none"> ~ 2 – 3 person months
3. Technical equipment	<ul style="list-style-type: none"> computers, printers etc. offices, and items of office equipment for the 3 local teams surveying equipment (leasing) transport: rental/ purchase of a car or mini-bus
4. Investments	<ul style="list-style-type: none"> reconstruction of irrigation systems (~ 4 000 US \$ / hectare) construction of farm roads (~ 20 000 US \$ / kilometre) <p>(Note: It is recommended that all investments in civil works be funded from other donor sources, such as WB, IFAD, EU)</p>
5. Miscellaneous	<ul style="list-style-type: none"> registration costs
II. Training Package	
6. National consultants	<ul style="list-style-type: none"> see above
7. International consultant	<ul style="list-style-type: none"> ~ 1,5 months – 1 person ~ 3 weeks – 2 persons ~ 2 weeks – 1 person
8. Rooms and equipment	
III. Drafting of Guidelines	
9. National consultant	<ul style="list-style-type: none"> see above
10. International consultant	<ul style="list-style-type: none"> ~ 2 person months

7. Possible Sources of External Funding

Land consolidation, if introduced nation-wide, will require continuous budget allocations from the various Government Ministries and local Government. As mentioned above (see section 4.6 of this report) it is recommended that a cost sharing formula be developed, sharing the cost of the individual land consolidation scheme between the State Cadastre Committee, the Community Council and the landowners of the particular village concerned. As land consolidation is seen as a concerted effort of the various government agencies, stakeholders from civil society and the landowners in most cases physical investments would also form part of the land consolidation scheme (e.g. rehabilitation or reconstruction of irrigation network, agricultural roads, erosion control measures, plots for small-scale agricultural processing plants). Such physical investments would be funded by the respective line ministry, by private investors or wherever possible from donor funds.

Apart from the proposal for a package of pilot interventions to be funded through an FAO TCP project various donor agencies could become relevant partners for the funding of land consolidation. The Food Security Programme of the European Union which has been in operation in Armenia since 1996 and which provides financing for state activities that are considered important from a food security point of view, may play an important role in this respect. The EC Food Security Programme may in fact become a very relevant partner for the introduction of land consolidation on a national scale.

Other important donors which have provided funding in support of the agricultural sector and rural development are the World Bank with its Agricultural Reform Support Project, IFAD with its Agricultural Services Project and the United States Department for Agriculture's Marketing Assistance Project (see section 2.10 of this report). All these programmes have over the years given funding for a large number of individual interventions which should, under the auspices of a holistic approach towards rural development, become part and parcel of land use planning and land consolidation at the local level. The various project interventions under these programmes should be well coordinated to fall in line with land consolidation efforts.

Furthermore it would be desirable that once the ongoing World Bank project in support of the State Cadastre Committee is phased out World Bank funding in support of land consolidation in Armenia be considered.

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Annex 1: Itinerary of the Mission

Monday, 19.11.2001

- Arrival of the consultant team in Yerevan
- Meeting in the State Committee on the Real Property Cadastre of the Government of the Republic of Armenia (SCC)

Tuesday, 20.11.2001

- Meeting with the head of the Land Construction Scheme Centre and deputy to Chairman of the SCC, meeting with the Land Construction Department
- Meeting with the head of Information Centre, presentation of cadastral maps of the communities included in the land consolidation project
- Meeting with representatives of the World Bank

Wednesday, 21.11.2001

- Visit to Shahumyan community in Ararat Marz
- Visit to local office in Vedi
- Meeting with the Marzpet of Ararat Marz

Thursday, 22.11.2001

- Meeting at SCC office
- Meeting at EU (FSP project) office
- Meeting at FAO office

Friday, 23.11.2001

- Meeting at GIPROSEM office
- Meeting at UNDP office
- Meeting at SCC office

Saturday, 24.11.2001

- Analysis of field data, report writing

Sunday, 25.11.2001

- Analysis of field data, report writing

Monday, 25.11.2001

- Meeting with the Executive Director of WOROGUM
- Meeting with the Deputy Minister of Agriculture
- Meeting at USAID office

Tuesday, 26.11.2001

- Meeting with the Chairman of SCC
- Meeting with the Deputy Chairman of the SCC

Wednesday, 27.11.2001

- Meeting with the Marzpet of Kotayak Marz
- Visit to several villages in Kotayak Marz

Thursday 29.11.2001

- Workshop to present the preliminary findings/recommendations of the mission
- Meeting with the Deputy Chairman of the SCC

Friday, 30.11.2001

- Departure of the consultant team

Annex 2: List of Persons Met and Interviewed

Mr. Vardanyan, Manouk	Chairman of the State Committee on the Real Property Cadastre of the Government of the Republic of Armenia (SCC)
Mr. Tovmasian, Sargis	Deputy Chairman of the SCC
Mr. Manukyan	Deputy Chairman of the SCC
Mr. Yegoran, Felix	Head of the Department of Land Construction, SCC
Mr. Sahakyan, Haik	Head of the Department of International Cooperation and Cadastral Projects, SCC
Mr. Baghdasaryan, Samvel	Head of the Information Centre, SCC
Mr. Kloyan, Hovsep	Deputy Minister, Ministry of Agriculture
Mr. Vardanyan, Henrik	Executive Director, “GIPROSEM”, SCJSC
Mr. Khachatryan, Albert M.	Executive Director, WOROGUM, CSJSC
Mr. Shahgaldyan	Marzpet of Kotayk Marz
Mr. Galstyan, Samuel	Deputy Marzpet of Ararat Marz
Mr. Garapetyan	Head of Shahumyan Community
Mr. Voskanyan, Ashot	Coordinator of FAO, Project Strategy for Sustainable Agricultural Development of the Republic of Armenia
Mr. Tateossian, Patrick	Technical Assistant EU Commission, Food Security Programme
Ms. Simonian, Anahit	Programme Officer, UNDP
Mr. Schreiber, Götz	Lead Economist, Europe and Central Asia Region, World Bank
Mr. Adlington, Gavin	Principal Land Administration Consultant, World Bank
Ms. Balian, Arpie G.	Deputy Director, Office of Economic Restructuring and Energy, USAID
Mr. Wyzan, Michael	Economic Advisor, USAID
Ms. Avetyan, Diana	Programme Management Specialist, USAID
Mr. Ivarsson, Göran	Cadastral Surveyor, M.Sc., Project Manager, SWEDESURVEY
Mr. Faxälv, Håkon	Senior Valuation Expert, Cadastral Surveyor, SWEDESURVEY

Mr. Vikman, Kjell

Area and Course Manager, M.Sc. Land Administration
and Surveying, SWEDESURVEY

Annex 3: Land Holding Sizes by Marzes

Annex 4: The State Cadastre Committee's Pilot Project in Land Consolidation

Armavir marz, Aratashen community

1. The total territory of the community - 964.6 ha, including the built settlements' - 40.2 ha.

2. People's ownership lands - 660.4 ha,

a/ households – 132.6ha, 914 units

b/ agricultural land parcels – 527. 8 ha, 764 units, including:

Arable – 474.1 ha, 662 units

Vineyard – 43.6 ha, 98 units

Orchard – 10.1 ha, 4 units

3. State owned lands - 199.5 ha, including:

Arable – 52.0 ha

Pastures – 13.6 ha

Other lands in total – 133.9 ha, including:

a/ Field roads - 25.4 ha

b/ Under water /small rivers, water channels/ - 11.9 ha

c/ Bog- 9.2 ha

d/ Salted lands - 39.2 ha

e/ not-used lands - 48.2 ha

4. Lands given to permanent use 104.7 ha, including:

a/ For transport - 7.6ha

b/ Lands belonging to water fund - 53.6 ha

c/ Historical lands - 3.3 ha

d/ Actually used lands - 40.2 ha

Total lands in the administrative territory of the community - 964.6ha

5. The number of population - 3000 people

6. The number of families - 1100

Armavir marz

Musaler community

1. The total territory of the community - 645.4ha, including the built settlement - 39.7ha
2. People's ownership lands 391.7 ha, including:
 - a/ households 100.6 ha,
 - b/ Agricultural land parcels 291.1 ha, 624 units, including:
 - Arable 178 ha, 338 units
 - Vineyard 82ha 183 units
 - Orchard 31.1 ha, 103 units
3. State –owned lands in total - 146.8 ha, including agricultural land parcels -58.8 ha, including:
 - a/ Arable 47.6 ha
 - b/ Salted 9.0 ha
 - c/ Virgin lands 2.2 ha
- Other lands - 88.1 ha, including:
 - a/ Field roads – 39.6 ha
 - b/ Under water (small rivers, water channels) – 11.9 ha
 - c/ Production area - 7.1 ha
 - d/ Unused another lands - 29.5 ha
- 4.The land given to permanent use – 106.8 ha, including:
 - a/ Lands of Industrial, transport, communication, defense importance – 19.5 ha
 - b/ Lands of Environmental, health, resort houses, historical-cultural importance – 1.8 ha
 - c/ Water fund lands – 45.8 ha
 - d/ Actually used lands – 39.7 ha
5. The total number of population – 2616 people
6. The number of families - 820

Ararat marz

Shahumyan community

1. The total land territory – 1556.4 ha, including the built settlements – 199.7 ha

2. People's owned lands - 547.7 ha, including:

a/ households - 140.7 – 1058 units

b/ Agricultural land parcels – 407.0 ha, 1259 units, including:

Arable – 286.2 ha, 817 units

Vineyard – 72.9 ha, 272 units

Orchard – 48.0 ha, 170 units

3. State owned lands, including:

Arable – 275.6ha,

Vineyard – 2.0 ha

Hays – 147.7 ha

Pasture – 90.0

4. Land given to permanent use - 79.0, including:

a/ National defense use	Pastures – 27.5 ha
b/ State crossroad	Arable – 16 ha
c/ Railway station	Orchard – 5.3 ha
d/ Cemetery	

5. The total number of population – 4320

6. The number of families - 1202

Ararat marz

Ranchpar community

1. The total land territory – 1224 ha, including built settlements – 90 ha

2. People's owned lands – 195 ha, including:

a/ households – 90 ha, 360 units

b/ Agricultural land parcels - 105 ha, 197 units, including:

Arable - 105 ha, 197 units

Vineyard – X ha, X units

Orchard – X ha, X units

Hays – X ha, X units

Pastures – X ha, X units

X means no figure was put down.

3. State owned lands – X. Including:

Arable - 125.5 ha

Vineyard – X ha

Orchard – X ha

Hays – 27 ha

Pastures – 36 ha

Not subject to use – 147 ha

4. Land given to permanent use – 331.2 ha, including:

1. Lands of special importance	Salted lands - 120.6
2. Water sewage	Salted lands – 10ha
3. Water fund	Salted lands - 31ha
4. "Fish" enterprise	Salted lands – 146.6 ha
5. Yerevan wire plant	Salted lands - 17 ha
6. Yerevan wire plant	Previous Pasture – 5 ha

Ararat marz

Goravan community

1. The total land territory – 2927 ha, including the built settlements – 146.7 ha

2. People ownership lands – 535.84 ha, including:

a/ Households – 112.79 ha, X units

b/ Agricultural land parcels – 423.05 ha, X units, including:

Arable - 447.4ha – X units

Vineyard – 55.27 ha – X units

Orchard – 19.84 ha, X units

Hays – 0.54 ha, X units

3. State owned lands totally – 2313.23 ha, including:

a/ Agricultural lands totally – 435.5ha

Arable – 105.5 ha

Pastures – 330.0 ha

b/ Other lands totally – 1877.73 ha, including:

Production areas – 18.86 ha

Land parcel roads – 35.0 ha

Other non used lands – 1823.87 ha

4. Land given to permanent use totally – 77.93 ha, including:

a/ Lands of industrial, transport, communication, defense importance – 21.41 ha

b/ Lands of environmental, health, resort houses, historical-cultural etc importance – 48.69 ha

c/ Water fund lands – 8.1 ha

Totally in the administrative territory of the community – 2927.0 ha

5. The number of people - 2712

6. The number of families - 821

Kotayk marz

Nor Geghi

1. The total territory of the Republic – 2381.3 ha, including, the built settlements – 433.9 ha

2. People's ownership lands – 1145.8 ha, including:

a/ households – 180.2 ha

b/ country houses – 23.4 ha

c/ agricultural land parcels – 942.3 ha, from which:

Arable – 651.6 ha

Orchard – 290.7 ha

3. Agricultural enterprises:

Poultry farm – 144.9 ha, from which households – 5.6 ha

4. State owned lands – 832.9 ha, including:

- Agricultural lands – 469.5 ha, including:

- a/ Arable – 245.6 ha

- b/ Orchard – 7.1 ha

- c/ Virgin lands – 30.4 ha

- d/ Pastures – 186.4 ha

- Other lands, totally – 363.4 ha, from which:

- a/ Production areas – 70.5 ha

- b/ Field roads – 37.9 ha

- c/ Under water (small rivers, water channels) – 17.4 ha

- d/ Forest – 8.8 ha

- e/ Not subject to use – 228.8 ha

5. Lands given to permanent use – 257.7 ha, including:

- a/ Lands of environmental, transport, communication, defense importance – 164.9 ha

- b/ Lands of environmental, health, resort houses, historical-cultural importance – 54.1 ha

- c/ Forest lands – 19.7 ha

Water fund lands – 19.0 ha

Totally in the administrative territory of the community – 2381.3 ha

6. Total number of population – 6400

7. Number of families – 1933

Kotayk marz

Mayakovski community

1. The total land territory – 1365.0 ha, including: built settlements – 101.8 ha

2. Peoples' ownership lands – 522.3 ha, from which:

a/ Households – 75.1 ha, 714 units

b/ Agricultural land parcels – 447.2 ha, 2394 units, including:

Arable	236.4 ha	Units	1786
Orchard	90.9 ha	Units	229
Hay	119.0 ha	Units	378
Pasture	0.9 ha	Units	1

3. State – owned lands – 502.4ha, from which:

a/ Agricultural land parcels totally – 274.1 ha, including:

Arable – 550.6

6 Orchards – 21 ha

Pasture – 213.0 ha

b/ Other lands totally – 228.3 ha, including:

Field roads – 29.3 ha

Under water – 3.5 ha

Canyons – 5.0ha

Production areas – 5.5 ha

Shrubs – 0.17 ha

Not subject to use – 184.83 ha

4. Lands given to permanent use – 340.3 ha, including:

1. Construction/Repair department	4.31 ha
2. Geological base	2.05 ha
3. Woodworking	0.48 ha
4. Car washing service	0.5 ha
5. Building materials	1.53 ha
6. Armenian agro. Equipment company	3.0 ha
7. Armgaz	0.66 ha
8. Armgaz	1.28 ha
9. Armgaz	3.07 ha
10. Armgaz	5.01 ha
11. Regional cooperation	3.87 ha
12. Plant of sport machines	1.93 ha
13. Milk accepting point	0.5 ha
14. Bread factory	1.77 ha

15. Can factory	1.32 ha
16. Beer factory	5.66 ha
17. plant	2.36 ha
18. Arm, agro, Equipment technical service	1.49 ha
19. Arm, agro Equipment	2.01 ha
20. Banian hospital	0.2 ha
21. Construction dep.	1.88 ha
22. Auto parking N 99	2.51 ha
23. Bread raw material factory	3.51 ha
24. Auto. transport lands	8.02 ha
25. Can factory	2.93 ha
26. Quarry	1.58 ha
27. Water farm	2.79 ha
28. Cooperative company	1.89 ha
29. Lands of special importance	257.86 ha
30. Quarry	2.56 ha
31. Asphalt plant	1.98 ha
32. Road between villages	6.0 ha
33. Cooperative	1.64 ha
34. Kotayk marz's canal	2.1 ha
35. Quarry	0.05 ha

5. Total number of population – 2050

6. The number of families - 762