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**Land Reform, Rural Poverty and Inequality in Armenia:
A Pro-Poor Approach to Land Policies**

Max Spoor

Institute of Social Studies (ISS) –
Centre for the Study of Transition and Development (CESTRAD)
and CIDOB, Barcelona

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Institute of Social Studies (ISS)

Kortenaerkade 12, 2518AX The Hague, The Netherlands

Tel: +31 70 4260694; www.iss.nl/land; Email: land@iss.nl

Introduction

The following analysis intends to contribute to the development of ‘pro-poor land policies’ in Armenia, and is focused primarily on improving the position of peasant farms and their poor and vulnerable households, for which land is still the main ‘safety network’. The agricultural sector in Armenia is dominated by small-scale land holdings since a redistributive land reform in the early 1990s. Land policies are highly relevant in Armenia today, as the country has entered in a *new phase (or wave) of land reform*, through the massive transfer of remaining state owned land to the jurisdiction of the communities and by finalising the formal registration of private land titles in the period 2003-2005. Taking into account the interlocking role of land, credit, services, output and input markets, the institutional framework, and the appropriateness of some forms of intervention in these markets the analysis directs itself to the following questions: *What can the state do* to improve the growth of agricultural output, while not worsening already high rural unemployment and weakening the safety net that land has meant for the rural poor? Does it leave everything to the market, apart from providing public goods, and creating an facilitative institutional framework, or can it go beyond this role of the ‘minimal state’, steering as it were the development of markets, and safeguarding the interests of those who have the weakest position? The latter – in rural Armenia – are without any doubt those who have little or no land. Therefore, while many factors are important in analysing the success and failures of the agricultural sector’s economy of Armenia, land and the access to it, is indeed of crucial importance.

The structure of the Chapter is as follows. In the following section, a brief overview is provided of the Armenian land reform. The emerging agrarian structure is analysed more from a regional perspective¹, parting from the initially relatively equal land allocation during the land reform, later to be influenced by increased rural out-migration and the land lease and sales markets that have started to become more important. Rural poverty is looked upon from the perspective of land access, it provided a cushion against the impact of the dramatic economic crisis, and being the ultimate refuge for food self-sufficiency of households and partial employment generation, as the agricultural sector absorbed superfluous labour from other sectors. Rural poverty indeed reduced at first, but since 1996 had stagnated while urban poverty rapidly declined.

In the third section the performance of the agricultural sector is scrutinized, also using *Marz* data.² This disaggregated analysis provides insights in why agricultural production is developing relatively slowly. The product-mix changed, in particular reflecting ‘risk averse’ behaviour of peasant farms. However, agriculture in terms of volume has done better than the (value-based) growth figures suggest, in particular due to the price scissors of the immediate post-Russian crisis years. However, rural incomes did not grow, although the domestic terms of trade have improved somewhat since 2000. Although the data is not detailed enough to be able to provide a definitive analysis, it seems that there is a certain dynamism and regional specialization in the changing agrarian structure, which reflects that somewhat larger

¹ Armenia is a country with large geographical differences (valleys, pre-mountain areas and high mountains).

² The *Marz* is the Armenian name for the main regional administrative unit.

farms produce the bulk crops, such as grain (Aragatzotn, Shirak and Gegharkunik) and potatoes (Gegharkunik and Lori), while other *marzes* specialise much more in fruits (Ararat, Armavir, and Kotayk) or vegetables and melons (Ararat and Armavir) produced in much smaller farms, although this is not always the case, because of the risk aversion behaviour of peasant farms.

The fourth section is fully dedicated to the operation of land (lease and sales) markets. Detailed data are not (yet) available on who buys or leases land, from whom and for which reason. However, there are aggregate data, in particular from the State Cadastre Committee, which show an increasing number of land transactions, in particular since 2001. The main push factor for land sales is poverty and destitution (and the strategy to migrate, which in the case of Armenia means the last step, cutting very important roots). Pull factors are the demand for land from neighbouring farms that do better and expand, but also from absentee financial groups that invest (or speculate) in land³, or the emerging agro-industry (of wine and canned fruit) that seeks vertical integration. An overview will be given of the current land distribution at *Marz* level, in which beginning forms of land concentration can be seen to emerge.⁴ The land structure in Armenia still shows a large number of very small farms, while at the same time these farms have fragmented land holdings, with an average of 3 plots. Therefore, land consolidation –understood as a process of ‘consolidating’ these plots into unified land areas of farms, and distinct from the concept of land concentration– is needed. However, in the absence of trust in each other and in existing institutions to handle these issues, this process seems to be highly complicated and costly.

The fifth section analyses the current new phase (or wave) of land reform that is occurring at this very moment. Although rather unnoticed, the state is transferring a substantial amount of land, mostly hay land, pastures and meadows to jurisdiction of the communities, only keeping the land that is outside their *de jure* borders.⁵ This gives the possibility to communities to decide themselves about the allocation of this land, its privatization, leasing or sales through public auctions. Around one third of the rural communities have by now received full control over this part of the State Reserve Fund of land. There is some anecdotal evidence that first sales were done in a rather non-transparent manner and that even some large land transactions took place.⁶ Nevertheless, a powerful instrument is provided to the rural communities to improve the weak position and meagre land holdings of poor and vulnerable farm households through land allocations, supported by a combination of private and public finance. Communal pastures should furthermore be carefully handled, and access to these ‘commons’ has to be regulated through collective property rights and leasing rather than selling them to private farmers, as the latter is neither efficient (except for specific cases) nor equitable.

³ With the expectation that agricultural land will soon increase in value.

⁴ Although we will show that only a very small share of land has been subject to sales, and most land concentration is effectuated by informal or formal leases.

⁵ This was already on the agenda since the late 1990s, but was only recently concretized (see first reference in Lerman and Mirzakhanyan, 2001:8).

⁶ There were some reports of sales (of state land by communities) that were between 100 and 300 hectares, as was confirmed by a high official of the SCC. In response the government had installed restrictions on such sales of land (Interview, 7 October 2004, Yerevan).

The sixth section will attempt to broaden the focus of the Chapter beyond issues of ‘land, rural poverty and inequality’, towards rural markets and institutional environment surrounding peasant farms in the transition economy of Armenia. There are three crucial issues that define this ‘environment’, which is still largely characterized by ‘missing’ markets and institutions, i.e. inefficient, fragmented (just like in the case of land) and with high transaction costs. Following the initial land reform, agricultural and rural development policies have been minimal to say the least, reflecting a rather strong urban bias in the political economy of Armenia. In absence of cooperative or associative institutions, lack of credit and investment resources, and asymmetrical information problems, the rural producers are often in substantial disadvantage in commodity chains. Furthermore, the quality of land, and irrigation that are indicated as the main bottleneck to improve agricultural production, or even fully use the available (albeit scarce) land resources.

In the concluding section seven, coming back to the original question ‘what can the state do’ in terms of pro-poor land and rural development policies, a number of possible policy interventions will be discussed that should be considered in order to improve production and efficiency on the one hand (amongst other through land consolidation and increased differentiation of farm size), while safeguarding as much as possible access to land because of its high propensity to reduce poverty levels. Several institutional issues will be brought forward regarding pro-poor land policies: regulated and transparent forms of using transferred state reserve land by the communities (directed allocations to the poor and vulnerable peasant farm households, leasing, sales and proper management of community land, such as pastures); promotion of cooperative or associative forms of production and/or marketing; completion of the property title registration (which is in full swing at the moment); further development of land markets (and institutional capacity to manage this process); and improvement of institutional cooperation, with as main objective the strengthening of institutional capacity for (rural) policy analysis, development and implementation of rural (land and development) policies, which is currently rather weak (at central, regional and local levels).

Finally, a number of rural economy growth scenarios will be discussed that are based on our current knowledge of the agrarian structure and the development of the Armenia agricultural sector.

2. REDISTRIBUTIVE AND EGALITARIAN LAND REFORM

In only a few countries of the former Soviet Union a redistributive land reform has taken place, particularly in the smallest newly independent states, namely first in the early 1990s Armenia and Georgia, later on in Kyrgyzstan (mid–1990s), and finally in Moldova (late–1990s). Actually, some of the required institutional framework for Armenia’s land reform was already put in place in early 1991, even before the Soviet Union fell apart. Soon after independence the land reform started, and 70 percent of arable land came into the hands of individual peasant farms.⁷

⁷ Lerman, Zvi and Astghik Mirzakhanyan (2001: 6-7).

Outcomes of Land Reform

The re-distributive land reform in Armenia created a large number of peasant farms (see Table 1) with an average size, of 1.3–1.4 hectares (and less than 0.5 ha per rural capita), divided into several parcels. Primarily arable land (with in addition most of the orchards and vineyards) was privatized, while an important part of the hayfields and all pasture land remained in the hands of the state. This meant that by the mid-1990s one third of agricultural land was privatized.⁸ According to the official ‘Land Balance’ of 1997 around 330,000 individual peasant farms had been formed, remaining fairly stable since.

TABLE 1: NUMBER AND ACREAGE OF PEASANT FARMS (1998-2003)

	1992	1993	1996	1998	2000	2002	2003
Nr of Peasant Farms Units (x 1,000)	165.2	238.3	316.4	333.8	332.6	334.7	337.9
Land Area of Peasant Farms (x 1,000 Ha)	214.9	310.4	429.2	447.0	460.1	453.1*	461.3
Average Size Peasant Farms (Ha)	1.30	1.30	1.36	1.34	1.38	1.35	1.37
Land Balance (1997) (% of Agricultural Land)	%	Agric. land	Arable Land	Perennial Grass	Fallow Land	Hay Land	Pasture
		100.00	35.53	4.59	0.03	9.98	49.88

Source: NSS (2003a; 2004d); StatKom SNG (2002) *Ezhegodnik SNG 2001*.

Note: *NSS (2003a) did provide another figure, namely 471.9, suggesting an increase in acreage.

⁸ Hay land and pastures were mostly held by state farms during the Soviet period, with most often communal (informal) grazing rights for households. Comparable with countries such as Kyrgyzstan and Mongolia, also the Armenian government decided to keep the communal access arrangements (in combination with leasing to individual producers), and did not privatize substantial areas of this land.

TABLE 2: LAND INVENTORY (PRIVATE AND STATE-OWNED) FOR THE YEAR 2000

	Number of farms*	Total Private Land (Ha)	Average Private Land Area	Arable Land	Orchard	Vineyard	Hay Field	Fallow & other	Total State Land	Arable	Orchard	Vineyard	Without use	Hay Field	Pasture
Aragatzotn	37139	55969	1.51	41219	1875	2164	1705	9006	61549	12051	266	121	426	1233	47452
Ararat	52482	33728	0.64	18366	1886	3711	874	8891	31045	10697	289	316	0	1459	18284
Armavir	50332	45876	0.91	27773	2813	3782	30	11478	25020	12777	795	434	580	121	10313
Gegharkunik	46133	74578	1.62	48769	27	0	15655	10127	97847	27701	89	0	5350	6272	58435
Lori	32549	64659	1.99	33258	885	74	21483	8959	87826	9889	745	3	707	12690	63792
Kotayk	37611	45731	1.22	27060	2428	749	7734	7760	41932	9316	788	13	79	2525	29211
Shirak	28153	68858	2.45	57944	22	0	2875	8017	76014	19110	119	0	242	7819	48724
Syunik	12707	38330	3.02	30231	750	81	3806	3462	95302	12237	319	26	1216	3256	78248
Vayotz Dzor	11010	16748	1.52	10924	291	472	2814	2247	40320	4602	52	7	2016	2122	31521
Tavush	24492	29222	1.19	19470	493	1258	3524	4477	39932	7411	1006	39	107	7168	24201
Yerevan	2478	3443	1.39	198	68	127	0	3050	2970	1308	337	389	0	37	899
Within the community boundary	335086	477142	1.59	315212	11538	12418	60500	77474	599757	127099	4805	1348	10723	44702	411080
Outside the community boundary									324868	6540	44	3	0	30740	287541
Total agricultural land in Armenia		477142		315212	11538	12418	60500	77474	924625	133639	4849	1351	10723	75442	698621

Sources: NSS (2003b), *Regions of the Republic of Armenia in Figures*; and data provided by the State Cadastre Committee.

Note: *These include 335,086 (individual) peasant farms and 10 collective peasant farms. Since 2002 the latter category is renamed into 'commercial organisations'. In 2003 there were, according the NSS, 334,789 peasant farms and 110 commercial organisations.

While access to land was in principle egalitarian of nature, the standard allocation of land to members of eligible families depended on the available amount of land in the community, and the density of the eligible population at that moment. Hence, regional differences emerged. This is clear from the Land Balance of 1997, and further data that is available for the year 2000.

The average farm size in the *marzes* such as Ararat and Armavir were much smaller than in for example the *marzes* of Shirak and Syunik.⁹ However, this comparison still misses important variables, namely the altitude, the availability of water (irrigation) and the soil quality, but it provides some indications for the somewhat unequal endowments for peasant farms in the country, at least in terms of size. A similar conclusion can be drawn from a recent household survey (Table 3) that also shows these different averages per region, close to the data presented by the NSS for the year 2000.

TABLE 3: OWNED AND LEASED LAND BY PEASANT FARMS:
DISTRIBUTION BY REGION (2003)

(Ha)	Agricultural Land in use	Of which is Owned	Of which is rented*
Aragatzotn	1.79	1.73	0.07
Ararat	0.57	0.51	0.07
Armavir	1.16	1.01	0.16
Gegharkunik	1.77	1.54	0.25
Lori	2.13	1.68	0.49
Kotayk	1.58	1.53	0.05
Shirak	2.83	2.79	0.05
Syunik	2.48	2.03	0.52
Vayotz Dzor	1.34	1.21	0.14
Tavush	1.18	1.14	0.07
Total Average	1.53	1.37	0.16

Source: AST Nr. 6 (November, 2004), based on a survey of 6,000 households.

Note: *Most of this land was rented from the State

According to Table 3, individual peasant farms were leasing (again on average) small plots of land (0.18 ha), to increase the meagre average land holdings the own (1.37 ha).¹⁰

The original land reform has only touched upon a relatively small part of the total agricultural land area of Armenia. In the year 2000 (since then there is only gradual change, as we will see in the section on land markets) 477,141 ha was private land¹¹,

⁹ 'Private land' excludes land that is rented from other individuals or the community.

¹⁰ These data are somewhat lower than those of the World Bank-sponsored farm-survey of 1997. See Lerman and Mirzakhanyan (2001), pg. 16, where the authors present an average size of 2.17 ha for all surveyed farms, including 1.99 ha for owned and 0.18 ha for leased land. However, only a small share of all farms lease in land, and for those who do, the lease land plot was on average 1.16 ha. The legislative changes implemented since 2001, which concerned the privatization of reserved lands to the vulnerable population (mostly to refugees and internally displaced persons, which was done free of charge), and the emerging land sales and lease market might explain some of these differences.

¹¹ This includes land in the form of household ('subsidiary') plots, estimated at around 70,000 hectares.

while 924,625 ha was still state owned (with 599,757 ha within the boundaries of the communities, and 324,868 ha beyond these boundaries). The latter distinction is important as currently, during the period 2003-2005, state land ‘within the boundaries of the communities’ is being transferred (free of charge) to these administrative units, given them a variety of options to privatize, lease or manage them (see below). Most of that still state-owned land is pasture (75.5 percent), while furthermore arable land, and in addition orchards and vineyards in the hands of the state, represents 15.1 percent of the state-owned ‘land fund’.

Land as a ‘Cushion’ against Poverty

The Armenian land reform has functioned as an important buffer or cushion against the impact of the negative supply shock that has struck the Armenian economy during the first years of transition. By the mid-1990s, when economic growth started to regain positive momentum, after years of extremely severe contraction, poverty had become a widespread phenomenon in the country, with urban poverty more severe than its rural counterpart (World Bank, 2002). Widespread access to land, providing the capability to produce food for household consumption (or crop/animal based output to increase cash income), has definitely improved the lot of many rural dwellers, and also for the influx from urban centres, and other economic sectors that had largely collapsed (see Section of Agricultural Employment).

In table 4 one can see the development of poverty (distinguishing urban and rural poverty) between 1996 and 2003. The income gap between rural and urban areas is widening, and during the past years, urban poverty is rapidly diminishing (going down from 59.8 percent in 1996 to 39.7 percent in 2003), while rural poverty remains stagnant (fluctuating around the level of 48.0 percent in 1996 to 47.5 percent in 2003). Even worse, as poverty is measured by using only monetary based indicators or the level of nutrition, it does not take into account the severe deterioration of social (and other public) services in rural areas. All together this means that the ‘poverty reduction elasticity’ of land ownership seems to have somewhat diminished over the years, mainly, as will be seen below, because of the weak bargaining position of peasant farmers in markets. Primary producers have been suffering price discrimination, and incomes for agricultural producers stagnated or even dropped. This has led to the perseverance of similar levels of rural poverty since the mid-1990s, while urban poverty is rapidly diminishing.

TABLE 4: RURAL AND URBAN POVERTY COMPARED (1996-2003)

% (Shares of Total)	Urban Areas					Rural Areas				
	1996	1999	2001	2002	2003	1996	1999	2001	2002	2003
Total Population	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Not Poor	41.2	41.7	48.1	47.4	60.3	52.0	49.2	51.3	54.7	52.5
Poor	29.2	35.1	33.6	37.6	..	23.6	28.2	37.4	35.1	..
Extreme Poor	29.6	23.2	18.3	15.0	..	24.4	22.6	11.3	10.2	..

Source: NSS (2003c), ‘Social Snapshot and Poverty in the Republic of Armenia’.

3. PERFORMANCE OF THE AGRICULTURAL SECTOR

Rural incomes are largely dependent on the agricultural sector. Hence, its performance is of crucial importance for the sustainable reduction of rural poverty in Armenia. In the following section we will look to issues of agricultural employment, gross agricultural output development, the deterioration of the domestic terms of reference, and the development in output specialization and farm size.

Agricultural Employment

The importance of the agricultural sector in the transition to a market economy has grown substantially in Armenia. This is mainly because sectors other than agriculture largely collapsed in the early 1990s, in particular in industry. The agricultural sector henceforth absorbed a substantial volume of redundant labour, shed by other sectors. Agricultural employment increased from an estimated 389,000 workers in 1991 to 586,000 in 1996, thereafter stabilizing at a level around 565,000 during the late 1990s (StatKom SNG, 2002: 211).¹² This process instigated a form of ‘re-peasantization’ of the economy can also be noted in countries such as Georgia, Moldova, Kyrgystan and Uzbekistan. As could be expected, agricultural labour productivity declined during the first half of the 1990s, with a value added per worker decreasing to a level of 69.6 percent of the 1990 level in 1995 (with the entire economy being at 58.3 percent). It continued to reduce until the year 2000 (when value added per worker stood at 52.4 percent of the 1990 level), while the entire economy was recovering, and overall labour productivity had recovered to 86.6 percent of its original pre-transition level.¹³

Gross Agricultural Output

Gross agricultural output (GAO), with relatively small fluctuations, shows a smaller decline during the 1990s than GDP. For example, it dropped 16.3 percent between 1991 and 1993, and in comparison with 1990 only 2.0 percent (Griffin *et al*, 2002: 55). In the past decade, 1998 was a good year for agriculture, but in the aftermath of the Russian crisis, another more severe dip in GAO followed (see Table 5),

TABLE 5: GROSS AGRICULTURAL OUTPUT (1998-2003)

Billion AMD (Current Prices)	1998	1999	2000	2001	2002	2003
Total Gross Agric. Output	402.1	311.7	281.2	351.0	377.6	410.1
Plant Growing GAO	245.6	180.0	136.2	208.0	226.6	228.7
Animal Husbandry GAO	156.5	131.7	145.0	143.0	151.0	181.4

Source: NSS (2003a; 2004d);

Note: The NSS makes a differentiation between two sectors, namely ‘household plots’ (or sometimes even ‘people’s enterprises’) and commercial enterprises. The latter represents only a very tiny share of production. No other data than GAO at current prices (in Billions of AMDs or Armenian Drams) are available at aggregate levels for Armenia.

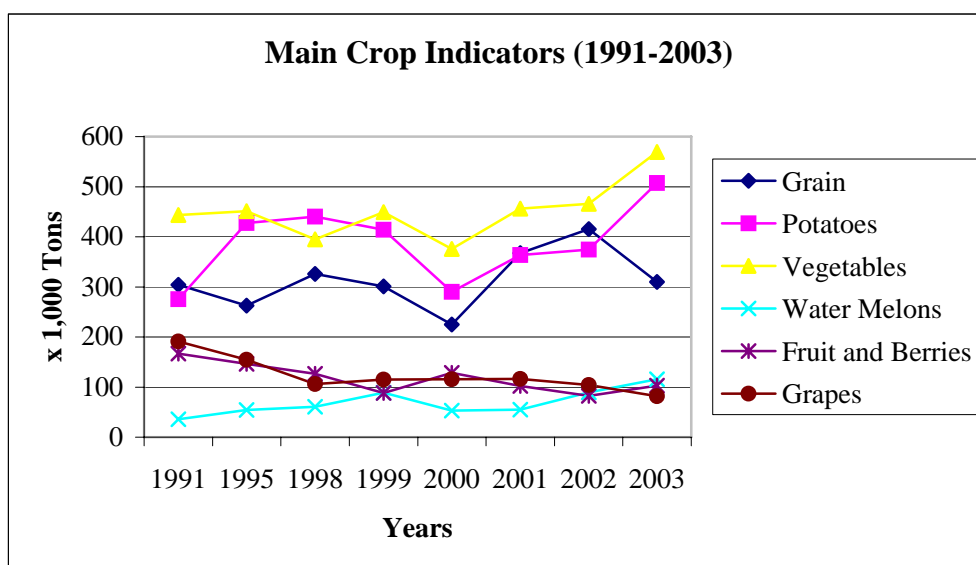
¹² It seems that relatively minor re-migration has occurred into the urban sectors, during the second half of the 1990s. There is, however, substantial temporal migration into Russia, in search of employment.

¹³ Griffin *et al*, 2002: 85

The negative trend in GAO between 1998 and 2000 can only be partially explained by the trends in physical output. According to official, in this period, physical output (measured in equivalents) from the crop sector decreased by 12.6 percent, while sub-sectoral GAO decreased by 44.5 percent. Its counterpart, the animal husbandry sector increased its physical output by 17.4 percent, while the corresponding GAO dropped by 8.3 percent.¹⁴ This is a clear indication that prices for primary agricultural products were decreasing in real terms and that profits were shifting towards other parts of the value chain (such as the food and agro-processing sector). On the whole agricultural output (in volume) has done relatively well during the whole period, at least better than one would expect, when keeping in mind the deep economic crisis Armenia went through in the early 1990s (see Figures 1 and 2).

What is very important to note from these data, is that ‘low value, high volume’ crop output (such as is represented by wheat and potatoes), indicate an increasing trend throughout the 1990s and 2000s, in particular the latter. In the case of grain the expansion of output can be largely explained from a larger sown area, which expanded from 152,500 ha (1991) to 200,800 ha (2003) (NSS, 2001, 2002a, 2004d).

FIGURE 1



Source: NSS (2003a; 2004d)

Note: The data for 1999 were substantially lower in NSS (2003a), than in NSS (2004d)

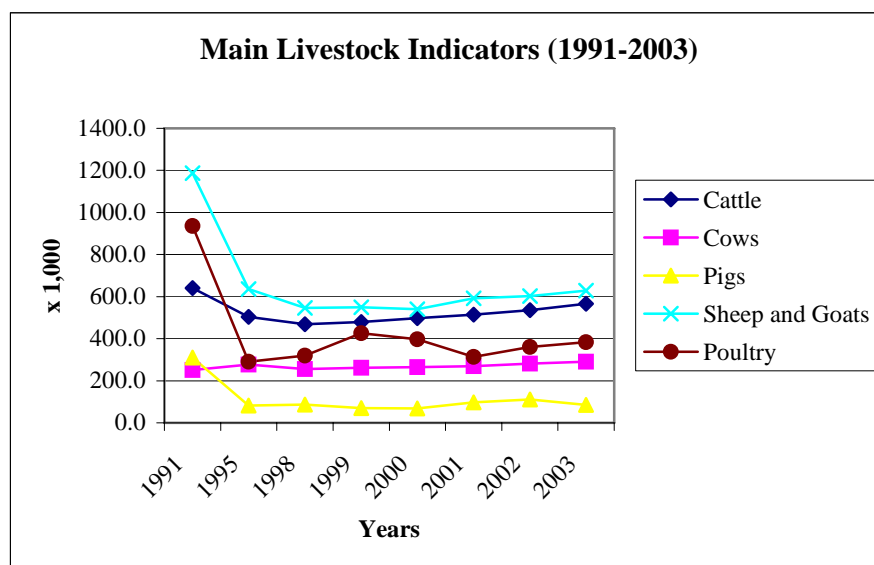
This shows the food self-sufficiency strategy of many small peasant farms. Grain yields have fluctuated wildly, as output is very much dependent in stable rainfall, and in its absence, of functioning irrigation systems. Production of ‘high value, low volume’ crop output follows a more complex trend. Low-investment crops, such as vegetables and fruits have substantially expanded in terms of output, adding cash income for the peasant farms. High-investment crops such as grapes, have substantially suffered. Anecdotal evidence from a field visit to the Vayots Dzor *marz* in October 2004 also revealed that individual peasant farms had sometimes cut (sic!) vineyards in favour of planting wheat, because credit, inputs and outlets were

¹⁴ See StatKom SNG (2002), and Table 5.

‘missing’, and hence food self-sufficiency was preferred instead. This happened also in other *marzes*, such as Ararat and Armavir.

The livestock sector in Armenia, again similar to other transition countries of the FSU, suffered a severe contraction (although much less than for example Russia and Kazakhstan). This was particularly strong in the sub-sectors of pigs, sheep and goats, beef cattle, and poultry, although this last category has been picking up substantially throughout the first years of this decade. Interestingly enough, the herd of cows has gradually expanded (to be expected with the large number of individual peasant farms), just as the production of milk and eggs (the latter after a substantial trough in the early 1990s, when specialised large-scale livestock and poultry complexes collapsed and the centralised production of fodder practically vanished). Finally, wool production dropped to about half of its previous production level, which reflects the sudden drop in subsidized and centralized fodder provisioning.

FIGURE 2



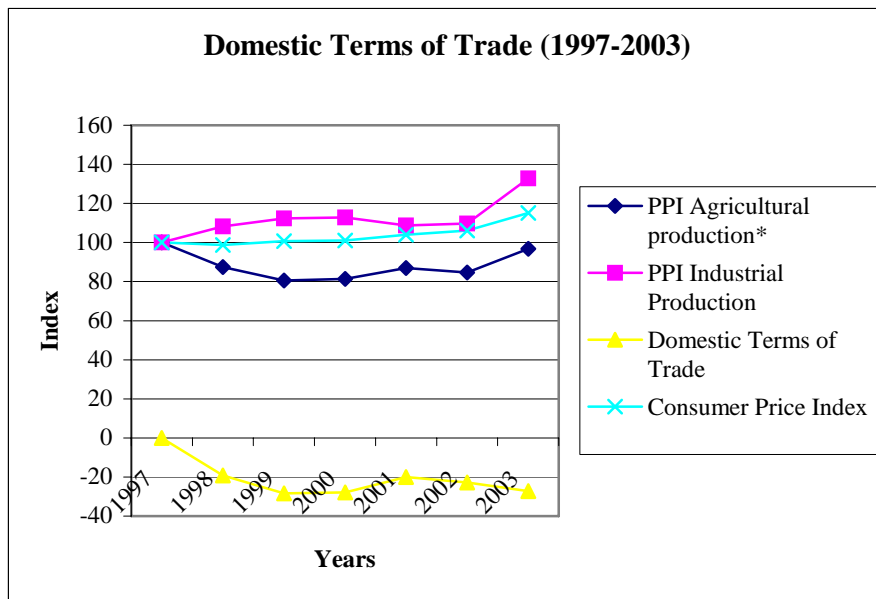
Source: NSS (2003a; 2004d);

Note: ♦ Per 1 January following year. For Poultry the unit of measurement is (x 10,000).

Deteriorating Domestic Terms of Trade

Another depressing effect for agricultural incomes, in spite of the reasonable performance when looking to physical indicators, was the negative development of the domestic (agriculture *versus* industry) terms of trade. Although the data is insufficient to be able to calculate this important indicator with a solid degree of confidence, the overall trend can be clearly discerned. In particular for the period 1998-2003, with as base year 1997 (when the statistical system was substantially improved, the overall trend for the domestic terms of trade (ToT_D) was negative (see Figure 3). The producer price index (PPI_A) for agricultural production declined between 1997 and 1999 by 19.5 percent, followed by fluctuations and an increasing trend until 2003. Overall the PPI_A index in the latter year compared with 1997 was 96.7. However, the PPI_I index for industrial production grew to 132.8 (compared to 1997= 100), which means a deterioration of the ToT_D by -27.2 percent!

FIGURE 3



Source: NSS (2002b; 2003a)

Note: The Domestic Terms of Trade between Agriculture and Industry have worsened during the period 1997-2003 by 27.2%, going down to the level of 1999-2000, after some recovery in 2001-2002. *Measured by the sales prices of agricultural products (weighted index of crop and animal production)

Although there was a small relative improvement of the ToT_D, during the years 2000 and 2001, by late 2003 the deterioration of the ToT_D for agriculture was still at the same level as by the end of 1999. One explanatory factor is that while Armenia became a relatively open economy during the 1990s, the trade blockade at its borders with Turkey and Azerbaijan, and the continuous internal upheavals in neighbouring Georgia, made Armenia *de-facto* land-locked. Surplus production could therefore most often not be sold externally, depressing domestic prices of agricultural products (Griffin *et al.*, 2002). However, there are also other important factors that are negatively influencing the ToT_D, namely the insufficient bargaining power (towards traders and processors) of large numbers of unorganised and individually operating peasant farmers; insufficient access to finance; and poor infrastructure (including storage facilities), and the change in crop-mix.

While volume trends for agricultural production during the same period were largely positive, with the above shown negative relative price development (depressing farm gate prices in relative sometimes even in absolute terms) the impact on agricultural incomes was negative.

Output Specialization and Farm Size

As stated in the introduction, Armenian agriculture shows very specific regional differences, that reflect natural endowments (the Ararat valley versus pre-mountain and mountainous areas); land allocation during the land reform (available land in combination with population density, causing the individual peasant farms in Ararat and Armavir to be relatively small); and crop/livestock specialisation.

TABLE 6: GAO PER MARZ (1999-2002), PER HA

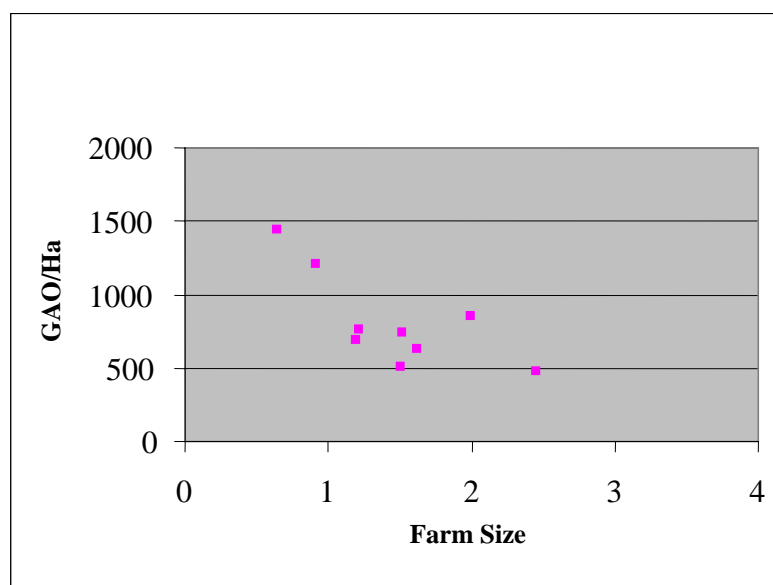
(1,000 AMD/ha)	1999	2000	2001	2002
Aragatzotn	489.7	310.8	422.7	503.1
Ararat	1271.4	1251.0	1289.4	1445.7
Armavir	1246.1	1117.5	1262.6	1208.1
Gegharkunik	477.6	445.8	563.1	630.6
Lori	690.3	630.9	786.5	857.1
Kotayk	570.8	538.2	678.5	761.1
Shirak	432.9	343.2	428.8	472.5
Syunik	441.4	540.9	677.0	640.8
Vayotz Dzor	427.0	417.8	669.8	745.5
Tavush	541.7	424.9	724.9	689.5

Source: NSS (2003b), *Regions of the Republic of Armenia in Figures, 1998-2002*, p.30

In Table 6 the estimated GAO per *marz* is given, which clearly shows a much higher GAO/Ha for Ararat and Armavir, followed (at quite some distance) by Lori, Kotayk and Vayots Dzor. From the data on physical output this can be simply explained by the fact that the first two *marzes* produce a large part of vegetables, fruits and grapes, while other regions produces more grain, potatoes (representing a lower value of output/ha), or are specialised in livestock production.¹⁵ However, as mentioned before, there is also a problematic tendency in the most important (in terms of GAO) agricultural *marzes* to diminish the acreage of vineyards, while the grain area (for food security reasons) has increased at the same time. If we compare the data of Table 6 (GAO/Hectare) with the average size of farms that was given in Table 2 (for the year 2000), we can see that there is a clear inverse relationship between the two variables (see Figure 4). Even so, these data combined with data on regional averages of farms indicate that the initial unequal distribution of land indeed has produced differences in production of GAO, not compensated for by crop/livestock specialization.

¹⁵ See NSS (2003b), *Regions of the Republic of Armenia in Figures, 1998-2002*, pp. 31-33

FIGURE 4
GROSS AGRICULTURAL OUTPUT VERSUS FARM SIZE



Source: NSS (2003b), *Regions of the Republic of Armenia in Figures, 1998-2002*

However, from the above discussion it remains unclear whether a more efficient and high-value producing farm sector is emerging in which individual farms tend to own more land (see further discussion below on this topic, when we will look in detail to an emerging change in the distribution of land in Armenia).

4. EMERGING LAND SALES AND LEASE MARKETS

In the early 1990s a new agrarian structure emerged in Armenia, with a large number of small peasant farms that own privately most of the arable land, orchards and vineyards, and part of the hayfields, while all pasture land remained state-owned. Agricultural land was managed under formal, informal and customary arrangements, and only by the late 1990s, land markets for the sale and lease of land emerged in Armenia. As generally is the case in agricultural land markets, there are 'push' and 'pull' factors that provoke land transactions.¹⁶ One 'push' factor for particularly land sales is obviously the emergence of rural poverty and destitution. Poor families might in the end be forced to migrate to urban areas or even abroad, and therefore have to sell their land in a form of 'distress sale'. According to Armenian tradition this is indeed the last step of uprooting, as the sale of land really means cutting the umbilical cord with the place of birth or traditional residence. Other 'push' factors include the low capacity to cultivate the land (such as within the growing group of pensioners), the need for cash income that can be derived from the sale (or renting) of land. A 'pull' factor for the sale of land (or in this case, the buying), is the demand for land by those neighbouring peasant farms that do well, and want to expand the size if their

¹⁶ In the Armenian legislation 'land alienation' is generally used, rather than transaction. Alienation includes the sale, inheritance, or donation of land, and excludes leasing. Land transactions also include leasing and mortgaging of land.

farm. Agro-industry (in case of wine/cognac production, or fruit and vegetable canning/processing) is trying to integrate vertically, in order to be able to guarantee sufficient quality and quantity of supplied raw materials and therefore invest in land (and infrastructure). Land purchase can also be ‘pulled’ by capital groups or rich individuals who speculate with agricultural land (which is expected to have a higher value in the future), while only having to pay low land taxes.

TABLE 7: THE AGRICULTURAL LAND MARKET IN ARMENIA (1998-2004)

Agric. Land Alienation (Nr) ♦	1998	1999	2000	2001	2002	2003	Total
Aragatzotn	29	51	80	78	250	379	867
Ararat	132	272	364	618	675	950	3011
Armavir	42	141	318	270	341	588	1700
Gegharkunik	37	12	8	17	63	216	353
Lori	3	29	23	45	73	181	354
Kotayk	10	121	118	131	327	559	1266
Shirak	10	32	47	69	171	282	611
Syunik	2	0	2	14	15	66	99
Vayotz Dzor	1	11	48	16	12	64	152
Tavush	2	7	15	29	6	27	86
Total Number	268	676	1023	1287	1933	3312	
Total Nor of Land Lease Transactions	..	127	103	4355	3915	2110	

Source: State Cadastre Committee, *Real Property Market in 1998-2003*.

Note: ♦ ‘Alienation’ means sales, donations, and inheritance. Nr = Number of transactions

As can be seen from Table 7, the official data provided by the State Cadastre Committee show the emerging (formal) agricultural land sales and land lease markets in Armenia. From a level of only 268 land sales transactions in 1998, the land market developed relatively quickly, to a level of 3,312 land sale transactions in 2003.

Land lease transactions numbered only 127 (in 1999) and 103 (in 2000), while in the following years their numbers grew to respectively 4,355 (2001) and 3,915 (2002). Interestingly enough, in the following year the registered number of leasing transactions reduced again substantially, without knowing the exact reason. However, it might well be that many lease operations are done without formal registration, avoiding substantial transaction costs.¹⁷ Regional differences are fairly large, with the *marzes* of Ararat, Armavir and Kotayk representing 70.3 percent of all sales of agricultural land. Although there are slight discrepancies in the data, in comparison with the previous table, Table 8 provides insights in the amount of agricultural land that has been transferred in terms of sales. For 2003, this was only 296.2 hectares of land in 145 transactions (which is 2.0 ha on average) of state land to private owners, and 2,175 hectares of land in 3,057 transactions between private landowners (0.7 ha on average). This is most likely because the former are pastures, and the latter is largely arable land. In the first half of 2004, the first category grew to 815.9 hectares of land in 261 transactions (increasing the average), and the latter to 1,232 hectares in 2,145 transactions (lower in comparison with 2003).

¹⁷ Although registration costs are low (USD 5 Dollar), red tape and therefore time investment are substantial. Furthermore, peasants want to avoid the 10 percent of income tax on rental income.

TABLE 8: LAND SALES OF PRIVATE AND STATE LAND (2003-2004)

	2003				2004 (First Half)			
	State Land		Private Land		State Land		Private Land	
	Nr	Ha	Nr	Ha	Nr	Ha	Nr	Ha
Aragatzotn	72	69.7	301	197.2	7	49.3	226	131.8
Ararat	12	47.5	903	298.5	190	412.9	543	204.7
Armavir	0	0.0	581	630.8	7	225.8	353	326.3
Gegharkunik	23	160.8	192	326.6	0	0.0	27	26.2
Lori	0	0.0	164	136.2	0	0.0	101	82.2
Kotayk	37	17.2	508	192.2	50	101.4	648	245.4
Shirak	0	0.0	280	295.0	0	0.0	139	132.3
Syunik	1	1.0	48	37.2	1	0.1	32	35.2
Vayots Dzor	0	0.0	57	50.3	5	25.2	35	9.1
Tavush	0	0.0	23	11.2	1	1.2	41	38.5
Total	145	296.2	3057	2175.2	261	815.9	2145	1231.7

Source: State Cadastre Committee (2003), 'Agricultural Land Market in 2003'; Ibid (2004), 'Agricultural Land Market in the First Half of 2004'.

These data indicate a rapid growth in sales transactions, albeit starting from a near-zero level, but the total area of agricultural land subject of sales in the past 6 years is still relatively insignificant, namely less than 2 percent of privately owned land in Armenia. This means that the land sales market is still nearly non-existing or 'missing', at least the formal market. There is some anecdotal evidence that informal land renting, in view of migration to urban areas and abroad, has become more popular, leading to a slightly higher degree of land concentration than before. Finally, the land sales market is expected to expand rapidly (with larger areas of agricultural land to be sold or leased), in particular because the government is pushing forward the process of (first) property title registration. At this moment this registration has started or even has been completed in 778 of the 929 communities, and it expected to be completed by late 2005.

Land concentration?

There is an emerging diversity in the size of Armenian farms. This differentiation in landholdings is mostly caused by renting (leasing) land in (or out), as there are quite some small farmer's household who do not have the capital, or even knowledge to farm, and have moved into off-farm employment or migrated. Although no hard data exists, this explanation is more likely, than that land concentration is emerging through purchasing and selling. Even in terms of official data on land distribution (ownership titles and formally leased land) there is a serious data problem. The State Cadastre Committee gathers this type of data at a disaggregate level in the regional and sub-regional offices, but no nation-wide land distribution is (as yet) available.¹⁸ At the moment it is working at an updated Land Balance, which will be published in 2005 (the last one is from 1997). Therefore, in this Chapter we reverted to a recent survey data produced for the publication *Armenian Social Trends* (Nr. 6, November 2004), which is based on a survey that includes 6,000 households.

¹⁸ As we will present later in this report, on special request of the mission, the State Cadastre Committee produced a special set of data, with 20 communities, on their land distribution and operations on the land market. This effort is highly appreciated.

In Table 9, these data (in accumulated form) are being presented, using categories of landholdings with intervals of <0.0-1.0], <1.0-3.0], and >3.0 hectares, and comparing the ranking of the survey-based regional average of landholdings and the one which was produced for the 1997 Land Balance (of the State Cadastre Committee).

TABLE 9: LAND DISTRIBUTION BY REGION (2003)

% \ (Ha)	<0.0-1.0]	<1.0-3.0]	>3.0	Average Farm Size (1)	Average Farm Size (2)
Shirak	22.3	41.4	36.3	2.83	2.28
Syunik	36.4	37.2	26.4	2.48	2.87
Lori	42.6	28.3	29.1	2.13	1.72
Aragatzotn	44.0	40.0	16.0	1.79	1.26
Gegharkunik	49.0	36.1	14.9	1.77	1.42
Tavush	50.5	46.0	3.5	1.18	1.01
Armavir	52.4	43.7	3.9	1.16	0.68
Kotayk	54.6	25.4	20.0	1.58	1.03
Vayots Dzor	62.3	24.9	12.8	1.34	1.18
Ararat	82.8	16.3	0.9	0.57	0.48

Source: AST, No. 6 (2004).

Note: (1) AST (2004) Survey; (2) NSS 1997 Land Balance (Owned Land)

At a slightly more disaggregated level the original survey measured land distribution within the following categories: <0.0-0.5], <0.5-1.0], <1.0-2.0], <2.0-3.0], <3.0-5.0], <5.0-10.0] and >10.0 hectares. For example, in Shirak 4.5 percent of the farms was larger than 10 hectares, while in Lori and Syunik this was 2.1 percent.

BOX 1

- **Entrepreneurial Farmers:** They have sufficient capital, own machinery, processing equipment; they rent out equipment and often produce seeds; rent in land (15-500 ha); have livestock (5-50 heads of cattle); hire workers; and have good access to credit and market outlets; they sell >50% of output.
- **Subsistence Farmers:** They have limited capital, little or no own machinery. They have their own land (1.5-5 ha), do not rent in other land, but rent out or leave it fallow. They have limited access to credit and markets; sell around 20-50% of output.
- **Vulnerable Farmers:** They have no capital, and often no working capital. They rent out land, leave their land fallow, or are landless. They have no access to credit, and limited market access. They sell/barter <20% of farm produce, and are involved in mostly off-farm activities.

There is, however, some anecdotal evidence that much larger farms are being formed through informal leasing arrangements. In the above mentioned *Marz* of Suynik, for example a recent field study found entrepreneurial farmers, cultivating between 15 and 500 (sic!) hectares of mostly rented land (ICRA, 2004: 42). This study introduced a farm household typology, which is possibly useful for the *marzes* that are outside the Ararat valley, distinguishing between entrepreneurial, subsistence and vulnerable farm households (see Box 1). However, this is a very crude differentiation, unfit for other *marzes* such as Ararat, Kotayk and Vayots Dzor, which show large numbers of very small farms. It is likely that the latter category also presents substantial differentiation, which is not measured through the degree of land concentration, but through the involvement in remunerative off-farm employment or business activities. Nevertheless, the proposed farm household typology does help to understand the emerging differentiation that is taking place in rural areas in Armenia.¹⁹

When sorting the data according to the number of farms in the first category of between 0 and 1 hectares, the survey results tell us that (in ascending order), the following *marzes* have more than 50 percent of their peasant farms in this category: Tavush, Armavir, Kotayk, Vayots Dzor and Ararat. The latter is a (well-known) extreme case of land fragmentation, namely 82.8 percent of the peasant farms are smaller than 1 hectare (Table 9), and 54.2 percent of the farms are even smaller than 0.5 hectare (*Armenian Social Trends*, 2004, Nr. 6)²⁰. If we combine this particular order of *marzes* with the average size of the peasant farms, it is clear that the order is the inverse one (with only small exceptions in the ranking), as the smaller share of very small peasant farms will also produce a higher overall farm size at *marz* level. However, returning to the discussion on land markets, it seems that most differentiation has been initially defined by the land reform of the early 1990s. To a lesser extend it can be explained by the follow-up process of (market-led) land concentration, although data on the informal land rental market are lacking, which –if available– could highlight its importance in the changing agrarian structure.

Completing the current process of property title registration will certainly lead to more sales/purchases of land and a gradual concentration of land in the hands more dynamic farms. The extremely small peasant farms will have great difficulties to be competitive in an open economy as Armenia is at the moment, but land for them will remain the main source of income, and a continued ‘cushion’ against worsening poverty. The future size of farms is off-course completely depending on the type of crop-mix, the available technology and the capital/labour ratio. Land concentration should furthermore not be confused with land consolidation, which is the process of interchange (through purchasing and selling, barter and the use of public compensation funds) of fragmented plots of land belonging to one peasant farm, with as objective to diminish transportation costs, and taking away technological bottlenecks, such as not being able to work the land with machinery. This need is still fairly urgent in the Armenian agricultural economy, as most owners have on average three plots of land, which are mostly quite distant from each other. The plots are

¹⁹ Lerman and Mirzakhanyan (2001) distinguish between sellers and non-sellers, in which probably the last category would include the ‘vulnerable farm households’.

²⁰ From Figure 2 it can be noted that the *marzes* of Ararat, Kotayk and Vayots Dzor, have the largest share of very small peasant farms (<0.0-0.5] hectares).

(especially in the Ararat valley) are often of awkward size, such as 5-10 meters wide and 1,000 meters in length.²¹

The government, through the State Cadastre Committee (SCC) through its Land Use Planning Institute (*Giprozem*), has developed a pilot project for land consolidation in 8 communities in the *marzes* of Ararat, Armavir and Kotayk.²² Furthermore, one of the most recent initiatives is a pilot project financed by the FAO, which focuses on land consolidation and improved land management schemes.²³ Unfortunately, this project was initially incorrectly portrayed as a project that would force peasants to sell, and in the interest of land concentration. This shows how politically and socially sensitive land consolidation is. The government has also made some steps towards avoiding further fragmentation of land, by prohibiting the division of land in case of inheritance.

5. LAND TRANSFER: A NEW PHASE (OR WAVE) OF LAND REFORM

It is crucial to note, as part and parcel of an analysis of land policies in Armenia, that there is a new institutional transformation underway in terms of property rights of land, involving a large-scale transfer of state-owned land to the jurisdiction of the communities. This transfer will also mean that these communities will have discretion to dispose of the land as they please, to sell it, to lease it, or to manage it (or even establish systems of communal ‘use rights’). The impact of this fundamental change in the property right system of land might well be deeper than it seems at the surface. Going back to the detailed Table 2, a total of 599,757 hectares of agricultural land (with as main categories 127,099 hectares of arable land and 411,080 hectares of pastures), i.e. all state-owned land that is within the boundaries of the communities, will be transferred in the period 2003-2005 to the communities themselves. Before this transfer, this land could be (and was also) used by and leased to individual peasant farms.²⁴

The rent and the taxes paid, had to be transferred to the central authorities, and could not be retained by the local administration, although they were already very short in revenues. The current transfer within the realm of ‘public ownership’ means that fiscal and other revenues (such as from renting and sales) from land that is legally controlled by local administrations, will be fully retained by them, and these proceeds can be used at that level. The State Cadastre Committee would like to see the proceeds being earmarked for expenditure needed for land development and area management plans, which are now occasionally financed by the central level, while other parts of the government voice different ideas for the use of this income. No specific rulings seem to have been developed for this purpose, although central government direction and guidance of this crucial process is badly needed.

²¹ Interview with an official of an Armenian agrarian NGO, 8 October 2004, Yerevan.

²² CFOA (2003), ‘Armenia Country Paper: Land Policy’. Paper prepared for the South Caucasus Regional Land Policy Conference in Tbilisi, February 22-26, 2003. *Source*: http://www.aplr.org/conference/en/country_papers/countrypaper_armenia_eng.htm

²³ FAO project (TCP/ARM/3004), to be executed during the period 2004-2006, with as counterpart the State Cadastre Committee.

²⁴ In some cases, it seems even that land which was leased for very long periods of time, was included (in a sense illegally) in the most recent formal land titling process.

It is clear that there will be a strong incentive provided to the community administration to sell land, as the revenue can be retained. This might well be contrary to other priorities, namely to search for improved institutional arrangements of land management at local level, in particular when it concerns communal pastures. The land transfer program should be used in order to strengthen the weak position of the extremely small peasant farms, as a primary tool of pro-poor land policies. Furthermore, the communal pastures –in case of their privatization– would provide only limited access for many peasant households who will have not gained private ownership, leading to rapidly increasing inequality of access to such important rural resources as grazing grounds and water resources. Interestingly enough this issue was already raised in the World Bank survey of 1998. As Lerman and Mirzakhanyan (2001: 31) stated:

Farmers express an overwhelmingly negative opinion of the privatization of pastures: 74 percent of respondents are opposed and only 9 percent support the suggestion.

TABLE 10: LAND TRANSFER PROGRAM (2003-2005) FROM THE STATE RESERVE FUND, COMPLETED IN 309 RURAL COMMUNITIES (09/2004)

Ha	Total Agric. Land	Private	Community	State	Other
Aragatzotn	69,801.3	18,682.6	48,874.7	2,244.0	0.0
Ararat	56,448.6	21,900.8	32,030.5	2,388.9	128.4
Armavir	81,874.8	35,348.0	43,194.2	3,332.6	0.0
Gegharkunik	46,345.0	18,523.1	26,706.3	1,115.6	0.0
Lori	42,596.3	9,887.8	22,377.6	10,331.4	0.0
Kotayk	32,454.8	10,689.8	18,797.1	2,961.1	6.9
Shirak	82,186.6	32,243.3	43,444.0	6,478.8	20.5
Syunik	74,646.9	15,660.2	53,473.1	5,513.5	0.0
Vayotz Dzor	-	-	-	-	-
Tavush	-	-	-	-	-
Total	486,354.3	162,935.6	288,897.5	34,365.9	155.8

Source: Data provided by the State Cadastre Committee.

Note: The category 'private land' has been the outcome of the land reform of the early 1990s. 'State land' will remain as such, at this is 'outside the boundaries of the communities'.

In Table 10 the current state of this land transfer programme is shown. By October 2004 it had been completed in 309 of the total 929 (urban and rural) communities, including a total amount of 288,898 hectares of land being transferred from the state to the jurisdiction of the community. Only a small share of this land has actually been privatized through land markets, as was shown in the previous section.

This observation will also be confirmed when we analyse detailed local data from a sample of 20 rural communities which was provided by the SCC in November 2004 (see Annex I).²⁵ There were only incidental sales in this sample between 2001 and 2004, some of them representing very tiny plots (that look more like household or *dacha* plots), and some larger ones (such as one case with only one transaction of 38

²⁵ It is not known on what methodological basis these communities were chosen by the SCC.

hectares).²⁶ The problem is not that the situation has changed dramatically, but that neither clear regulations, nor transparency (in terms of access to auctions and other instruments of sales or leasing practices) exist, which might well lead to undesired practices of land concentration or speculation with this very scarce resource. From the detailed data provided for these 20 communities (2 for each *Marz*), which can only be used to provide some trends and indications, and in no way should be generalised for the whole country, we can see a few other important variables. Communities only (or still) own, 17.9 percent of total arable land within their boundaries. In some communities all arable land is irrigated, in some none, while on average (although this ‘mean’ does not mean much) around one third of arable land is irrigated (see Annex I). Pasture land, which is most of the land to be transferred to the communities –in the sample– is around 58 percent of total land (while total pastures in Armenia is around 50 percent of agricultural land, see Table 2).

As mentioned before, the land transfer program can have –in the absence of a regulatory framework– lead to rapid and uncontrolled land concentration, which is not efficient and anti-poor. It also can have an important positive impact on the Armenia agrarian structure in the immediate future, especially if clearly defined land policies are in place. Moreover, this new stage (or wave) of land reform could be used to provide allocations of scarce land (finance by mixed public/private funds and even loans) to those poor households that for the moment badly need land for their basic survival (primarily food), in view of a rural non-farm economy in Armenia that is still poorly developed (Bezemer and Davis, 2003), and urban jobs are in short supply. It is also a crucial moment in time to promote more actively different associative and cooperative forms of labour exchange in production, joint marketing of output and purchasing of inputs (i.e. the so-called ‘single purpose cooperatives’). Important bottlenecks for land policy are furthermore, the management of communal pastures, the land consolidation of already established peasant farms (resolving existing extreme fragmentation), and the development of locally managed sustainable land management plans (such have been developed on an experimental base by the SCC), which will improve the possibility to modernize agricultural production.

6. RURAL MARKETS ‘BEYOND LAND’

After more than a decade of transition, any visitor of Armenia would be impressed by the relative wealth encountered in the city centre of Yerevan. However, when he or she would take the trouble to travel only a short distance beyond the borders of the capital, this impression would be suddenly replaced by the observation of an amazing gap between the ‘rest of the country’, in particular the more remote rural areas, and the capital. This enormous gap can be seen in quality of the standard of living, infrastructure, and quality of services. Particularly in areas that have been struck by the earthquake of 1988 (the north-west), and those who have absorbed large quantities of Armenian refugees, originating in the conflict around Nagorno-Karabakh, have high indices of poverty and destitution (World Bank, 2002). Rural poverty used to be lower than urban poverty, and access to land has been important in the explanation of this phenomenon. However, as was shown above, rural poverty in 2003 has surpassed its urban counterpart, stagnating at a level similar to 1996 (Table 4). While access to land is still widespread in rural Armenia, amongst farm households, the poor and

²⁶ A recent government decree establishes a ceiling for community land that can be alienated at 20 has.

extreme poor are those who own very little land, or the landless. It can be shown (for example in the *marz* Ararat) that a small addition to the private landholding substantially reduces the poverty risk. Nevertheless, for peasant farm households land is important, but not only land. This would indicate that (the lack of) across-the-board development of rural areas (including the small towns) and particularly rural markets has become the real Achilles' heel of the Armenian transition, in its quest for sustainable (and equitable) development strategy. The current growth pattern is clearly '*urban-b(i)ased*', and the fruits of growth equally so. Therefore, in this section we will analyse some of these markets (and corresponding institutions) 'beyond land', in order to properly frame land policies in the broader rural development context of Armenia. The most important of these are: irrigation, credit, farm services and output markets, while one of the cross cutting bottlenecks is the problematic state of rural infrastructure (such as roads, communication).

Irrigation: the 'Kingpin' of Agricultural Development

Irrigation is without any doubt the most important aspect of agricultural (crop-based) production in Armenia.²⁷ Reliable data on what is the current state of the irrigation system in Armenia is hard to get. In their 1998 household survey Lerman and Mirzakhanyan (2001) found that only an estimated 18 percent of all agricultural land was irrigated. This would correspond with 252,000 ha. The FAO (in its FAOSTAT data base) presents a near constant level of irrigated land of around 283,000 ha. The latter is hard to believe, as in most of the FSU there was a rapid process of deterioration of these large-scale, energy-intensive irrigation systems.²⁸ We therefore assume that the current irrigated acreage is substantially smaller. This is confirmed by micro-data in the most recent household survey of UNDP (AST, Nr 6, November, 2004). In total 44.2 of the surveyed households indicated that they did not utilize, partially or totally, their owned and rented land.²⁹ It is clear that irrigation is a crucial issue in (successful) agricultural production, and substantial investments are needed, hand in hand with institutional changes regarding subsidies for, rights to and pricing of water.³⁰

Rural Financial Markets and Access to Credit

Lack of financial means is the second major factor that prevents farm households to use all their agricultural land. According to the quoted UNDP household survey, in total 20.7 percent indicated that they had 'no [financial] means for cultivation', and therefore left fallow part or all of their land, or rented it out. The access to financial services for the majority of small peasant farms in Armenia (and in many other

²⁷ The Armenian government has successfully applied for support to irrigation rehabilitation from the so-called Millennium Challenge Account, financed by the Bush-administration.

²⁸ The draft 'Agricultural Sustainable Development Strategy' document published by the Ministry of Agriculture of the Republic of Armenia (MOA, 2004: 5) states that of the 274,000 hectares of potentially irrigated acreage, only between 200,000 and 210,000 hectares were actually irrigated.

²⁹ MOA (2004:11) notes that in 2001 a total of 35.9 percent of arable land was not used for cultivation. The most important reason was 'no irrigation or limited irrigation' (26.3 percent of the farm households). Another 14.3 percent stated that it was bad quality land that was the main factor for this decision. On the other hand, the same household survey data tell us that 28.6 percent of agricultural land was irrigated, and that this was even substantially less than last year.

³⁰ 'If land is not irrigated, it does not make sense to add it to your property. The land value of an irrigated versus a non-irrigated plot of land has a ratio of 10:1'. Interview with an official of the SCC (12 October 2004).

countries) is quite problematic. A large part of state financial institutions have been dismantled, and most (new) commercial banks do not lend to the agricultural sector, except to those farms that are sufficiently large, and integrated into the (HVA) value chain. The only bank that is having a serious share in lending to the agricultural sector is the ACBA Bank, which in 2003 claimed to have 61 percent of the total commercial bank portfolio in agriculture. This seems much, but as the overall level is problematically low, it is no surprise that in 2003 (ACBA, 2004:14) the agricultural loan portfolio was only 8.8 million USD (or just above 1 percent of GAO of that same year). Some progress has been made in terms of micro-credit, as in total 596 agricultural cooperative village associations have been set up, which have a total of 20,491 members. However, all in all, credit remains a crucial bottleneck (and equally so the absence of regionally present financial institutions that combined the savings and credit function in one), and if compared with countries such as Kyrgyzstan and Moldova, much more can be accomplished in establishing savings and credit associations. Finally, also relating to finance, in Armenia there is still quite some insecurity with peasant producers, what kind of tax regime will be introduced in order to comply with Armenia's obligations under the WTO agreement on agriculture. A timely resolution of this problem, for example by the implementation of a comprehensive lump sum tax below a certain ceiling of turnover (avoiding complicated VAT payments and administration for small-scale producers) will be very helpful in this respect.

Inputs, Technology and Land Use

With the collapse of the planned economic system, the re-distributive land reform, and the formation of a large number of small-scale peasant farms, the declining purchasing power and the alignment of (all imported) input and machinery prices, the use of the latter reduced dramatically. Although there seems to be a slight recovery of input use in the past few years, in the 1990s, only limited amounts of nitrogen fertilizers were used, while others were practically abandoned, being too expensive. According to the FAO (FAOSTAT, 2004), the volume of N-fertilizer consumed in Armenian agriculture, went down from 25,000 tons in 1992 to even 5,000 in 2001, only to grow again to a level of 8,200 tons in 2002. This is comparable with many other countries in the FSU, where most often the fertilizer use dropped to levels of 10-20 percent of the Soviet era.³¹ Although in many cases there had been over (and mis)-use of fertilizers, the extreme drop now causes land quality to degrade.³² Most trade in inputs is being executed by private traders, sometimes operating as commissioners of international companies active in Armenia. Prices are relatively high (see previous discussion of the ToT_D), and as credit is most often unavailable (even for working capital), the intensity of input use is low (with negative consequences for yields). Machinery services suffer a similar problem as elsewhere in the FSU, as the deterioration of the stock (of tractors, harvesters etc.) is enormous, many machines have passed their useful life-span, and there are no funds to buy new machinery.³³ Better-off farmers, who had (or bought) machinery, currently rent out machinery

³¹ MOA (2004:5) notes that '...in the last decade, the use of mineral fertilizers was reduced by 10 times, organic –by 18 times and plant protection means– by 10 times' (sic!)

³² In many conversations the issue of producing ecological products was discussed, sometimes suggesting that not using fertilizers and pesticides is enough. The fact that this niche market needs substantial investments in certification, packaging, and advertising was most often ignored.

³³ MOA (2004: 5): '...93 percent of present agricultural machinery and equipment is worn out'.

services to neighbouring peasant farms. Still, the problem of land fragmentation prohibits most often these machines, as the plots are scattered (or even of a form or geography that makes it difficult to operate machines on them).

Output Markets for Agricultural Produce

Output markets are exemplary for their ‘asymmetrical information’ problems for small peasant farms. The latter produce directly for the open market, hence not using any form of supply contracts with agro-industry (except for some canning and wineries). Producers bring their produce to the market as soon as they harvest, and many with them do the same, depressing local market and farm gate prices. There are few (mostly donor-supported marketing cooperatives that improve bargaining power of the peasant farmers). They are badly needed (such as the already mentioned labour exchange groups, and ‘single purpose cooperatives’ for marketing of output of purchasing of inputs). In Armenia the main market is Yerevan, in the absence of sufficiently important regional wholesale markets. Distances are substantial, especially if one takes into account the dreadful state of roads in many of the more remote areas of the country. Intermediaries are often behaving in non-competitive ways, operating with high marketing margins. Finally, the country is not only physically landlocked, but with the trade blockade imposed by its neighbours Turkey and Azerbaijan, and the complications of trade through Georgia (which might improve in the near future, in order to be able to penetrate the Russian market), export possibilities are limited. This causes domestic prices to be lowered, as domestic demand is limited (and cross-regional trade as well). It is therefore not surprising that selling of agricultural produce does not provide a large share of income for peasant farms, and many small farmers are part-time agricultural producers, forced to find other employment in the rural non-farm economy, temporarily migrate to urban areas or even migrate, in order to complement their meagre household incomes by other earnings or remittances from migrant workers.

7. PRO-POOR LAND (AND RURAL DEVELOPMENT) POLICIES

In this Chapter we have been able to show a number of critical phenomena related to agricultural land in Armenia. Firstly, land concentration seems to emerge, although it is very difficult to judge how rapid this is proceeding. According to cadastral data this is not even the case, but informal rental markets might well escape the eye of official measurement, and anecdotal evidence suggests that the ‘push’ factors in renting out land (namely poverty, insufficient land, and absence of capital to work the land productively) are important in combination with various ‘pull’ factors. The completion of the (formal) property title registration will contribute to a better working of land markets and hence, to a further ‘natural’ process of land concentration, and economically more viable farms. In the medium and long-run, this is certainly the scenario that will be relevant for Armenia, but in the short-run, it might simply lead to more poverty and destitution, when land is rapidly concentrated in the hands of a few powerful buyers, without the expected investment drive that would be needed to modernize (and capitalize) the agricultural sector, or to the detriment of many small land ownership who will become poorer than they already are.

Secondly, the current second stage (or wave) of land reform, which includes the massive transfer of the remaining arable land, hayfields and most of the pastures, to the jurisdiction of the communities, is much more important than seeing it as merely an administrative operation. Community administrations, which have substantial independence in terms of 'local governance', will have the possibility to privatise, rent or manage land resources. Therefore, they would be capable to use these scarce land resources as an important tool for safeguarding (and improving) the livelihood of vulnerable farm households, who would benefit substantially from small allocations of land, rather than promoting the sales of land to individual (more 'entrepreneurial') farmers. The first (preferred) option will need central finance, while the second is attractive to local authorities, as it will bring in badly needed revenue. Thirdly, land policies cannot be seen in isolation, and actually land is not important in Armenia, if it is not irrigated, and if there is no market and institutional development 'beyond land', i.e. in terms of inputs and machinery services, infrastructure and farm produce market outlets, rural public investment and pro-poor rural tax policies. Parting from these three main observations, the following land-related policies would need to be addressed in order to promote pro-poor rural development.

- The new phase (or wave) of land reform, that concerns the transfer of much of the remaining state-owned agricultural land to the jurisdiction of the communities can be used to promote four targets. As most important one, part of the transferred arable land resources needs to be used to improve the livelihood of those vulnerable peasant farmers, through directed land allocations (to be financed by a mix of public/private funds, and loans). Land consolidation has to be facilitated (through exchange and merging, using the physical land reserve), using donor-financed land consolidation projects executed in pilot areas, providing 'best practices'. Equal (and transparent) access is needed to auctions of land that will be privatised. Through the use of land ceilings the (most often 'distress') sales of large tracks of land to a small elite have to be prohibited. Finally, land policies (and local institutions) are needed to safeguard the communal pastures where this is appropriate for equity reasons in terms of access (using joined group rights of access, leasing arrangements etc).
- The formation of cooperative, associative, and group-based institutions are warranted that dedicate themselves to selling and buying of inputs and output in agricultural markets (and labour exchange in productive activities), in order to break-through the current deadlock or squeeze, in which many small peasant farms are caught. There should be public awareness campaigns that these kind of cooperative or associative institutions have no resemblance to the Soviet-type collectives, and that in many developed countries they were at the heart of the success of agricultural development. This mentioned 'deadlock' is not primarily an inefficiency problem, but one of market integration and obtaining some degree of 'market power', which they now completely lack. These institutional changes at local level can also have direct positive impact on the production side, as it will be possible to prepare and harvest land with machinery through cooperation or rental arrangements.

- The rental market of land needs further formalization, promoting the official registration of land rent transactions (by lowering the notaries' fees and taxes to be paid), as otherwise this market will be largely functioning underground, and no sensible land policies will be possible (as even insufficient knowledge of the emerging reality exists). Proper lease payment enforcement is also badly needed, and awareness campaigns about the rights and obligations for both parties in a lease agreement. Finally, a nation-wide land lease market study is to undertaken in order to make an inventory of the various informal and formal arrangements (such has recently been done in the Republic of Moldova).
- The completion of the formal property title registration of all agricultural landowners will lead to the facilitation of selling and buying of land, or increasingly land as collateral (currently planned to be completed by the end of 2005). Central and local institutions would need be more actively involved in sustainable land management planning, that will take into account agro-ecological specificities, land fragmentation, and actual land use, in order to support local transformation of agrarian structures towards more the emergence of economically more viable peasant farms. For this the Armenian government should give more importance to decentralization (and local institutional capacity building), stimulating regional and local economic development, while similarly undertaking sufficient public investment that support the latter.
- The institutional capacity at central, *Marz* and community administration levels needs strengthening in Armenia, in order to improve their institutional policy analysis and policy development capacity *versus* the rural sector, in particular regarding the livelihood of farm households. After at first having been the focal point of attention in the transition (with the land reform in the early 1990s), it seems that in the past years they have been somewhat lost in the government 'priority agenda'. Possibly there was at least some belief in the 'spontaneous' emergence of markets (and institutions), providing the environment in which small peasant farms would soon become economically viable. However, reality has shown a different outcome, rural poverty is stagnating (at a fairly high level) and 'missing' markets and institutions are the rule rather than the exception.

In conclusion, in terms of possible rural economy growth scenarios, analysed from a perspective of poverty reduction and inequality, there are three possible future paths that can be distinguished. The first one is somewhat of a doom-scenario, parting from increased (including temporary) migration of the most important part of the rural population, namely workers between 15-50 years of age, leaving behind increasing socially (and economically) unviable villages. This scenario might well go hand in hand with 'distress sales' of land, but not necessarily with the development of economically viable farms. The second (limited growth) scenario will be more equivalent to a status quo path, in which there will be some spill-over of the rapid growth in the urban areas, externally financed investment in infrastructure and communication (shifting some of the observed extreme 'urban bias'), but no real boost of agricultural production, except in some agro-industry connected sub-sectors.

This would be a ‘muddling through’ scenario. The third scenario would be more focused on integrating rural and urban economies, counteracting the rapidly growing gap in terms of income and human development. This scenario would be the outcome of a concerted effort of institutional change, the introduction of a countervailing ‘rural bias’, a gradual concentration of land (corresponding with the absorption of surplus labour into the emerging rural non-farm economy (RNFE) and other –urban based– economic sectors. This more optimistic scenario would be based to sustainable agricultural growth, with the emergence of cooperatives and small peasant farmers associations that will be able to improve the bargaining position of their members in various markets, next to individual (more capitalised) medium-sized farms, both having linkages to an innovative agro-industry (and export opportunities), while an even expanded and strengthened household economy (using the momentum of new allocations proposed here under the current state land transfer) would be able to improve food and income poverty levels in rural (and indirectly in urban) areas. This scenario would need a full-scale regional development strategy and a coherent institutional and policy framework to become realistic.

ANNEX I: PRIVATE AND COMMUNITY-OWNED AGRICULTURAL LAND IN 20 COMMUNITIES (OCTOBER 2004)

Marz	Aragasotn		Ararat		Armavir		Gegharkunik		Lori		Kotayk		Shirak		Syunik		Vayots Dzor		Tavush		
Name of Community	Hectares	Vardenut	Artashavan	Darakert	Arevshat	Hushakert	Aragats	Gandzak	Hairavank	Vahagni	Debet	Hankavan	Aghavnadzor	Arevshat	Megrashen	Khot	Brnakot	Arpi	Rind	Achajur	N.K. Aghbiur
Arable Land (AL)																					
Private		361	283	216	82	265	226	868	300	269	62	0	192	506	780	504	1581	173	259	636	544
Community		71	59	43	63	48	58	191	28	37	53	63	38	112	198	28	230	50	111	103	188
Orchard/Vineyard																					
Private		79	1	4	112	42	37	0	0	19	0	0	0	0	0	49	5	0	32	118	29
Community		9	0	0	2	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Irrigated AL (%)		7	137	286	122	313	284	97	17	19	30	0	113	54	0	16	557	163	67	300	74
Hayfields																					
Private		79	71	0	2	0	0	392	178	42	141	0	110	0	0	30	0	0	50	183	0
Community		9	99	0	0	0	0	11	1	224	29	132	34	7	0	3	30	0	0	5	61
Pastures/Others																					
Private		0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Community		1178	2125	59	124	510	304	1503	528	1179	340	1317	1009	796	435	999	2825	722	2712	1177	727
Land Sales from Community/Nr		0	2.7	12.1	38	0	66.8	8.36	19.8	0	0	0	10.1	0	0	0	0	0	0	0.13	0
			/1	/85	/1		/5	/70	/18				/23							/2	

Source: Data provided by the State Cadastre Committee. This was a specially commissioned study. It should be noted that in the communities of the *marzes* Vayots Dzor and Tavush there was not land transferred to the community level as yet (see also Table 13).

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