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המרכז למחקר בכלכלה חקלאית
THE CENTER FOR AGRICULTURAL ECONOMIC RESEARCH

Working Paper No. 9607

LAND REFORM IN TURKMENISTAN

by
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and
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LAND REFORM IN TURKMENISTAN¹

Zvi Lerman and Karen Brooks

Turkmenistan is the only country in Central Asia in which the constitution formally recognizes private ownership of land. Yet, this constitutional provision introduced in 1992 has done little to spur the process of land reform. Changes in land tenure and use since independence in 1991 do not further key objectives of land reform, such as increasing private investment in agriculture and improving stewardship of land and water resources. Land markets do not yet exist, due to legal constraints on transactions. Thus, although the constitutional recognition of private ownership in land is notable, virtually all the work of creating meaningful property rights in land and a framework for evolution of farm structure remains ahead.

With land area of 488.1 million sq. km, Turkmenistan is the fourth largest among the former Soviet republics (after Russia, Kazakhstan, and Ukraine), but its population of around 4 million puts it near the bottom of the ranking, with smaller populations reported only in the three Baltic republics. The combination of large land area and relatively small population produces an overall population density that is among the lowest in the former Soviet Union: 7.6 people per sq. km compared to the USSR average of 13.0. This is much lower than in Turkmenistan's Central Asian neighbors and is comparable to the population density in sparsely inhabited Kazakhstan (Table 1).

The low figure for the overall population density is misleading, however. Turkmenistan is a desert country: cultivated land in Turkmenistan is merely 4% of agricultural land, compared to 40% average for all former Soviet republics. The rest is unirrigated and uninhabitable. The rural population of 2.0 million is concentrated on 1.2 million ha of arable land, which works out at 1.7 people per ha of arable land as effective rural population density, compared to USSR average of less than 0.5. Ignoring the expansive desert pastures, which are not of much use to individual farmers, there is 0.60 ha of arable land per rural resident in Turkmenistan. This is more than in other Central Asian republics and in Trans-Caucasus, but much less than in the European republics (Table 1). Turkmenistan is thus characterized by a high pressure of rural population on intrinsically limited resources of irrigated land.

Because irrigated land is so scarce, and because water resources are fixed and limited, a central objective of tenure reform in Turkmenistan must be to achieve good stewardship of land and water, and to promote their efficient and sustainable use. The present property rights and constraints on markets have led to severe and potentially irreversible degradation of land, through excessive application of water, salinity buildup, and deterioration in drainage. Preservation and enhancement of land quality will require commitment of the labor and savings of rural households, and this will not be forthcoming unless tenure is secure and land markets can function.

Importance of Agriculture

Turkmenistan is largely an agricultural country. More than half its population is rural, and the proportion of rural population has been steadily increasing since the 1960s. The annual growth rate of the rural population is 2.8%, while the urban population has been growing at an annual rate

of 2.3%. As a result, the rural population has increased from around 52% of the total in the 1970s to nearly 55% in 1990-1993. This puts Turkmenistan between the relatively more urbanized Kazakhstan, where only 40% of the population is rural, and the rest of Central Asia, where rural population is around 60% (Table 1).

Table 1. Population Density, Availability of Arable Land to Rural Population, and Percent of Rural Population in Turkmenistan and Other Former Soviet Republics: 1990

	Population density, people per ha	Arable land, ha per rural resident	Percent of rural population
Turkmenistan	7.6	0.60	54.6
FSU average	13.0	2.28	33.9
<i>Central Asia</i>			
Uzbekistan	46.3	0.37	59.7
Kyrgyzstan	22.3	0.52	61.9
Tadjikistan	37.4	0.22	68.6
Kazakhstan	6.2	5.00	42.4
<i>Trans-Caucasus</i>			
Armenia	113.3	0.48	31.8
Georgia	78.4	0.33	43.8
Azerbaijan	82.4	0.39	46.5
<i>European republics</i>			
Russia	8.7	3.40	26.1
Ukraine	86.0	1.97	32.5
Belarus	49.4	1.76	32.9
Moldova	129.6	0.74	52.5
Estonia	35.1	2.45	28.5
Latvia	41.6	2.20	28.9
Lithuania	57.2	1.96	31.2

Source: Narodnoe khoziaistvo SSSR v 1990 g.

The rural population is mainly employed in agriculture. With the relatively fast growth of rural population, agricultural employment in Turkmenistan has increased from 40% of total labor force in 1985 to 44% in 1992-1993. Industrial employment during the same period remained at 21% of total number of employed. Traditionally (between 1980-1991) agriculture accounted for around 25% of gross material product, compared to over 45% for industry. Its contribution to value added was even more significant: agriculture accounted for 40%-45% of value added ("produced national income"), far ahead of industry, whose share of value added did not exceed 30%. The share of agriculture in both gross material product and value added declined dramatically in 1992-1993,

dropping to around 10% by both indicators (in current prices). All measures of GDP and sectoral accounts in Turkmenistan are very uncertain because of extreme price distortions. Nonetheless, agriculture's share of the economy seems to have declined. This is a harsh reflection of the unfavorable terms of trade of agriculture during the recent years, caused by faster increase of prices of industrial products.

The decline in gross agricultural output since independence has been less than in some other countries in transition, in part because much of the system of administrative allocation of inputs and mandatory marketing quotas has been preserved. Yields have fallen significantly, however, particularly in the grain sector and in livestock. The relatively moderate decline in output has been achieved by continuing the traditional extensive expansion in the former Soviet tradition, with little consideration of costs or comparative advantage.

The role of agriculture in the economy of Turkmenistan highlights the potential importance of the process of land reform and farm restructuring in this country. Transformation of agriculture through properly designed land and farm policies can markedly improve the wealth and the standard of living of the population, which has always been among the poorest in the former Soviet Union. Conversely, failure to attend to property rights in land and water will prolong and accelerate the current decline of rural areas into severe poverty. Because it has significant energy reserves, Turkmenistan is considered to be one of the potentially more prosperous countries of the former Soviet Union. The obstacles to exploitation of these reserves are very substantial, however.

Land in Turkmenistan

Cultivated land in Turkmenistan accounts for a mere 4% of all agricultural land (1.7 million ha out of 41 million ha): the rest is desert pastures (Fig. 1). Because of severe desert conditions in the country nothing can be grown without irrigation, and virtually all cultivated land in

Fig. 2. Growth of Irrigated Area: 1965-1993

Fig. 3. Availability of Irrigated Land: 1965-1993

Turkmenistan is irrigated. The source of water for irrigation is a negotiated share of four international rivers, the most important of which is the Amu Darya. Water from the rivers is distributed across the country through the 1400 kilometer Kara-Kum Canal. In the early 1960s, before the major irrigation projects connected with the Kara-Kum canal were launched, total irrigated and cultivated area in Turkmenistan was less than 0.5 million ha. Land used for farming thus more than trebled during forty years. Fig. 2 shows the dramatic growth of irrigated area in Turkmenistan from 0.5 million ha in 1965 to 1.25 million ha in 1988 and then, after a short lull, by an additional 20% to 1.5 million ha in just two years 1992-1993. The expansion of cultivated area through irrigation even outstripped the growth of rural population and the increase of the number of workers in agriculture. The cultivated area per capita grew at an annual rate of around 1% since

1965, increasing from 2.2 to 3.2 ha per agricultural worker and from 0.5 to 0.6 ha per rural resident between 1965 and 1993 (Fig. 3).

Expansion of irrigated area has continued since independence, with an addition of approximately 400,000 ha. Turkmenistan's water resources are limited, however, and the share of regional rivers allocated to Turkmenistan under existing procedures is relatively high compared to population. Turkmenistan's allocation of regional water supplies is unlikely to increase in the future, and pressures of competing uses of water will intensify as population growth continues.² Under present conditions of low yields and high wastage of water, further expansion of irrigated area is not environmentally desirable or economically justified. Turkmenistan's agricultural growth in the future will require higher yields per hectare and more efficient use of water.

Fig. 4. Area Sown to Cotton and Grain: 1985-1993

Cotton is Turkmenistan's main cash crop, accounting for half the cropped area. Prior to 1991 all cotton was exported to the USSR. In recent years, cotton has become a major source of foreign currency earnings as exports have been redirected to other countries, among them Turkey, Switzerland, Pakistan, Italy, and Great Britain.³ In an attempt to reduce reliance on wheat imports and improve self-sufficiency in food, Turkmenistan's producers have been required by decree to nearly treble the land under grain since 1990: the share of grain increased from 15% to 33% of the total sown area (Fig. 4). The increase of areas cropped to grain has come at the expense of cotton (its area has declined by about one tenth during the last decade), and reduction in area of feed crops, potatoes, vegetables, and melons. The changes in cropping patterns have been accomplished entirely through government directives, and the decline in area under feed crops has occurred despite an increase in the animal herd.

Inherited Land Tenure

Prior to the adoption of the new Constitution in 1992, all land in Turkmenistan was owned by the state. This exclusive state ownership of land was traceable to the fundamentals of the 1917 Soviet Land Decree, which eliminated privately owned land in the region that would eventually

become USSR. The Soviet state granted use rights in land to producers, both collective and individual. Turkmenistan inherited from the Soviet Union a typically dual pattern of land tenure. Most of the agricultural land (over 95%) was in permanent use of large-scale farm enterprises: there were some 500 former state and collective farms, which respectively cultivated 1500 ha-2500 ha of sown land per average farm. In addition, around 2% of arable land was allocated in lifetime inheritable possession to rural households, where employees and pensioners of the farm enterprises farmed with family labor small subsidiary household plots of less than 0.2 ha on average. The land in household plots was almost entirely arable land, orchards, and vineyards, without any pastures and with very little hay meadows. The composition of an average household plot was typically 85% arable land and 15% orchards and vineyards.

In Turkmenistan, the large-scale farms produced on average 80% of gross agricultural product during the last decade, while the remaining 20% came from production in small household plots. The share of subsidiary household plots in gross product was much higher than their share of land in all former Soviet republics. The significant contribution of household plots to agricultural production was regarded throughout the Soviet Union (at least since Gorbachev's time) as a sufficient reason for encouraging this subsector and increasing its land holdings. Household plots were accordingly the first beneficiaries of the land reform process everywhere in the FSU.

Growth of Individual Sector

A definite change in agricultural land tenure is noticeable in Turkmenistan, especially since 1990. The share of large-scale farm enterprises in cultivated land is shrinking (Fig. 5). The share of traditional farms in arable land declined from 93% in 1985 to 86% in 1994, and their share in land under perennials (orchards and vineyards) dropped from 86% to 76% in the same decade. The decline accelerated markedly after 1989. Since total irrigated and cultivated land continues to expand (see Fig. 2), the declining share does not imply decrease of total land area cultivated by large-scale farms. However, the rate of growth of collective cultivated hectareage is much slower than the rate of growth of all cultivated land, which accounts for a pronounced decline in the collective share. Both arable and perennial land is shifting from traditional large-scale farms to the individual sector, whose share in cultivated land has rapidly increased since 1990 (Fig. 6). The total land holdings of the individual sector increased more than six-fold during one decade: from 36 thousand ha in 1985 to 224 thousand ha in 1995 (Table 2).

The individual sector today includes three distinct categories of producers (Table 2). The largest category are still the household plots, which account for more than half of all land in the individual sector. The household plots are cultivated by nearly half a million rural families (455.3 thou. families as of Oct. 1995), mostly employees and pensioners of large-scale farms. Another well-established category are gardens and vegetable patches cultivated by nearly 80 thousand urban families (77.1 thou. families as of Oct. 1995). This category of so-called collective gardens is quite small, however, and represents less than 3% of all land in the individual sector. The collective gardens are established by associations of city workers, usually affiliated with the same work place, who apply as a group to local government for an allocation of land. These urban groups are allocated contiguous tracts of land not far from the city, which are then subdivided into small individual plots for part-time farming by association members. The third category, which began to emerge as recently

as 1991-1992, are the private peasant farms (*fermerskie krestianskie khoziaistva* in Russian) established by independent individuals outside all collective frameworks. The number of independent private farms reached 3200 by the end of 1995, while another 5000 applications were pending. Land in private farms exceeds 40% of all land in the individual sector. Fig. 7 shows the relative weight of the three components of the individual sector.

Fig. 5. Decline of Collective Land: 1985-1994

Fig. 6. Share of Household Plots in Cultivated Land

The land in household plots doubled within two years, from 52 thousand ha in 1990 to 102 thousand ha in 1992 (see Table 2). By the end of 1995, it reached 120 thousand ha, or an average of 0.25 ha per family. The share of household plots in arable land increased from around 2% in the 1980s to nearly 5% in 1995. Their share in perennial land doubled from 11% to 21% in the same period. The weighted average share of household plots in all cultivated land now exceeds 5%, up from 2.5% in the 1980s (see Fig. 6). Collective gardens of urban workers registered an even more impressive growth rate: from a mere 700 ha in 1985 to 6400 ha in 1995, or an average of 0.08 ha per family. Private farmers, the new third component of the individual sector, were allocated nearly 100 thousand ha of land between 1992 and the end of 1995, of which 80 thousand ha are the farmers' property and another 18 thousand ha are leased from the state. An average private farm is 25 ha.

Table 2. Individual Land Use: 1985-1994 (thou. Ha)

Year	Household plots	Collective Gardens	Private Farms	Total in Individual Use
1985	35.4	0.7		36.1
1986	36.2	0.7		36.9
1987	38.1	0.8		38.9
1988	45.3	1.3		46.6
1989	47.2	3.3		50.5
1990	51.9	3.1		55.0
1991	88.4	4.5	0.1	93.0
1992	101.5	5.4	1.8	108.7
1993	109.9	5.7	31.1	146.7
1994	117.8	5.8	87.3	210.9
1995	119.6	6.4	98.0	224.0

Source: State Committee of Land Reform of Turkmenistan.

Table 3. Land Holdings of Peasant Farms: 1991-1995 (ha)

Year	Total land	Privately owned	Leased
1991	0.1	--	0.1
1992	1.8	--	1.8
1993	31.1	25.7	5.4
1994	87.3	69.8	17.5
1995	98.0	80.3	17.7

Source: State Committee of Land Reform of Turkmenistan.

While household plots and collective gardens cultivate mostly irrigated arable land, peasant farms as a matter of policy are established on marginal virgin land. The peasant farmers are expected to convert their marginal land into arable land by preparing it for cultivation and providing irrigation. As of October 1995, only 40% of the land holdings of private farms were classified as arable land (39 thou. ha of the total of 98 thou. ha). In order to start producing before their allocation of private land has been fully prepared for cultivation, many farmers are forced to lease arable land from the local collective or state farm. Nearly 20% of land holdings in peasant farms is leased land that the

local farm enterprises left unutilized (Table 3). Thus, despite the generous endowment of land, private farmers are currently producing less than 1% of agricultural product, mainly because most of them were established very recently and are still not fully operational on their marginal land.

Fig. 8. Growth of Ag Product: Households and Enterprises

In contrast, the increased allocation of good land to household plots has led to a substantial increase in their contribution to gross agricultural product. The share of households in gross agricultural product rose from around 17% in 1989-1991 to nearly 30% in 1994, and household plots today account for over 60% of the value of livestock production in Turkmenistan (their share of crop products remains below 10%). The agricultural production of household plots in constant prices more than doubled between 1980 and 1994, while the agricultural production of large-scale farm enterprises declined in recent years basically to the level of 1980 (Fig. 8).

Legal Framework of Land Reform

The legal framework of land reform in Turkmenistan is provided by a long list of presidential decrees and laws, some of them dating back to the Soviet period in 1990 (Table 4). The changes in land relations began in the first half of 1991, primarily with the President's letter of April 1991 (which had the force of a presidential decree) instructing local councils and ministries to allocate additional arable land for household plots and collective gardens from underutilized land reserves of large-scale farm enterprises. The jump in the share of cultivated land in household plots observed between 1990 and 1991 (see Fig. 6), and the associated increase in agricultural production of households (see Fig. 8), are a direct outcome of this policy decision. The April 1991 decree established a new principle, namely that land originally granted to farm enterprises in perpetuity could be reallocated to other users if not utilized efficiently. This principle has since remained an active component of the land policy in Turkmenistan.

The augmentation of household plots began before the adoption of the new Constitution of Turkmenistan. At that time, all land in Turkmenistan was state-owned, as everywhere in the former

USSR, and land tenure was governed by the traditional Soviet forms of permanent use (for farm enterprises) and inheritable lifetime possession or usufruct (for individuals). The May 1992 Constitution (article 9) recognized private ownership of land (and other means of production) by individuals. The constitution also allowed corporate ownership of assets, including land, and naturally retained the category of state ownership. The Constitution of Turkmenistan is unique among the constitutions of Central Asian countries in that it recognizes private ownership of land. The Constitution, however, only sets general principles, and practical implementation is left to laws, presidential decrees, and government resolutions. Both the 1990 Land Code, which remained in force after the adoption of the new constitution, and subsequent legislation unequivocally showed that private ownership of land did not carry with it the usual rights of transfer: privately owned land to this day may not be sold, given away as a gift, or exchanged by its owner.

Table 4. Selected Legislation on Land Reform and Farm Restructuring in Turkmenistan

1990 Dec.	Land Code of the Turkmen SSR amended May 1991
1991 April	President's letter to local councils of People's Deputies and heads of ministries and authorities "On augmentation of areas for household plots and collective gardens from inefficiently utilized lands"
1991 May	Amendment of the Land Code
1992 May	Constitution of Turkmenistan (article 9: private ownership of land)
1993 Feb.	Presidential decree "On right of ownership and use of land in Turkmenistan"; Regulations on Allocation of Land Use in Private Ownership and Long-Term Leasing to Citizens of Turkmenistan
1993 May	Presidential decree "On increasing economic motivation for increased production and improved quality of agricultural products"
1994 March	Presidential decree "On restructuring of kolkhozes, sovkhoses, and other agricultural enterprises in Turkmenistan"; Law on Peasant (Daikhan) Farms
1994 May	Presidential decree "On implementation of reforms in agriculture of Turkmenistan"
1995 June	Presidential decree "On creation of peasant associations - daikhan birleshikleri"; Law on Peasant Associations
1995 Sept.	Standard regulations on peasant association
1995 Dec.	President's program "On Deepening of Market Reforms and Socio-Economic Development of Turkmenistan in 1996"; Presidential decree "On Additional Measures for Reforming Peasant Associations in 1996"
1996 Jan.	Draft Land Code

According to the presidential decree of February 1993, published after the adoption of the new constitution, land in subsidiary household plots and in collective gardens was to be transferred from the old form of inheritable lifetime possession to private ownership. The decree also legalized long-term leasing of land by individuals and groups of individuals within large-scale farms: land could now be leased to farm employees for terms of 10 years and longer. In addition, the February 1993 decree made the first step toward expanding individual land tenure to include an entirely new category of producers, namely private farms. While the traditional household plots and collective gardens were largely intended for subsistence purposes, and only a small part of their output was sold in local markets, the new private farms were expected to have a commercial orientation.

As of February 1993, citizens of Turkmenistan could apply to receive up to 50 ha of land in private ownership for commercial farming. This land, however, was not necessarily arable or irrigated land. The presidential decree specifically stipulated that local authorities would allocate land plots for commercial farming from reserve lands, virgin lands, and lands not used by farm enterprises. The new farmers were thus expected to "open" virgin lands by their own efforts and with their own resources. This task would normally involve leveling the rough native terrain, moving away large volumes of sand, trucking in equally large volumes of fertile soil from afar, and providing irrigation ditches or pipes from relatively distant water sources. Yet the new farmers were obliged to start producing within two years, and would lose the land if they failed to start farming commercially within the stipulated period. This was probably an unrealistic stipulation, given the tremendous difficulties that individuals would face in "opening" virgin lands and providing irrigation. Nevertheless, the "opening" of virgin lands by private farmers since 1993 accounts for part of the considerable increase in irrigated land observed during the last two years (see Fig. 2). The land received for private farming, although classified as privately owned, could not be sold, given as a gift, or exchanged. The legal framework thus prohibited all transactions in land, preventing creation of optimally sized farms through market mechanisms.

Despite the physical obstacles and the marginal quality of land allocated to private farming, individuals began to apply in increasing numbers for an independent plot of land outside the collective framework. As of October 1995, 3237 individuals received a total of 80.3 thousand ha of virgin lands in private ownership, and nearly 5000 additional applications were pending. Private farmers managed to "open" 31 thousand ha, or nearly 40% of land that they had received. The growing interest in private farming encouraged the preparation of a special law, the Law of Peasant (Daikhan) Farms, which was passed in March 1994, replacing the February 1993 Presidential decree.

Draft Land Code

The land reform process in Turkmenistan is mainly guided by presidential decrees. Apart from the new Constitution, most of the relevant laws date back to 1990-1991, the threshold period before the dissolution of the Soviet Union that was characterized by relaxation of central legislative controls and a certain transfer of responsibility to the republic level. The current Land Code was passed in 1990, and has been overtaken by the new reality in land relations. It is badly in need of updating.

The draft Land Code currently under discussion recognizes the right of every citizen of Turkmenistan to private ownership of land. Foreign citizens may not own land: only leasing by

foreigners is allowed. Yet, the draft Land Code states that "land is granted in private ownership ... in inheritable lifetime possession, without the right to sell, give as a gift, or exchange." This formula is transported verbatim from the Soviet-influenced Land Code of 1990, except for the addition of the clause "private ownership" to comply with the new Constitution.

This juxtaposition of two distinct concepts, that of private ownership (*chastnaia sobstvennost'*) and that of inheritable lifetime possession (*nasleduemoe pozhiznennoe vladenie*), is not accidental: it occurs at least twice more in the draft Land Code. When listing the legitimate uses for which individuals may be granted land in private ownership (article 57), the draft law says (emphasis supplied):

Citizens of Turkmenistan have the right to receive *in private ownership with lifetime inheritable possession* plots of land for the following purposes:

- commercial farming, peasant farming, free entrepreneurship, and provision of services to the population;
- subsidiary household farming;
- individual residential and summer-home construction;
- gardening and vegetable growing; etc.

When discussing the establishment of private farms (article 64), the draft law says (emphasis supplied):

Citizens of Turkmenistan who wish to establish a peasant farm for crop or livestock production based predominantly on personal labor and labor of other family members will lease land or receive land *in private ownership with the right of lifetime inheritable possession*.

Rights of land owners (*zemlevladel'tsy*) include the right to transfer the land plot or part thereof in temporary use to other juridical or physical bodies (article 47). This presumably includes leasing out land to others. Since no other rights of alienation are mentioned, none are allowed by implication. Land users (*zemlepol'zovateli*) do not have any rights of transfer, not even temporary.

It thus seems that the term "private ownership" is equated, both semantically and legally, with "lifetime inheritable possession", the traditional Soviet form of land tenure that prevailed before the introduction of private land ownership. A "private land owner" has no other rights than using the land during his lifetime, leasing it out temporarily, and leaving it to the heirs. Taking an extreme position, one could argue that "private land ownership" is really a meaningless concept in this context, and the words have been added superfluously to the legal language: there was no need for a new concept in addition to the traditional "lifetime inheritable possession", as the substance of property rights in land did not change.

Restructuring of Traditional Large-Scale Farms

Despite the encouragingly vigorous growth of all three components of the individual sector (household plots, collective gardens, and peasant farms), the bulk of agricultural resources remains

in large-scale farms (see Fig. 5), and they continue to dominate agricultural production. The land cultivated by these farms is state owned, and any plans for land privatization, or at least privatization of production, are necessarily linked with farm restructuring.

Internal changes in the structure and organization of large-scale farms in Turkmenistan began in the late 1980s and early 1990s, when Gorbachev's model of intra-farm lease groups or lease contracts was gaining popularity in all parts of the Soviet Union.⁴ According to this model, a group of farm workers leases farm resources from the large-scale enterprise and assumes responsibility for production. In return, the lease group either makes a fixed lease payment or apportions a specified share of its output to the farm enterprise. The lease group (*arendnyi podriad* in Russian) may be composed of workers without any blood relation who are employed in the same section of the farm enterprise, or alternatively it may be based on members of a whole family or even several families (*semeinyi podriad*, a family lease contract). Gorbachev's intra-farm lease model did not prove particularly successful, because in a command economy the lease groups continued to depend on central farm management for input supply and product marketing, and because their production decisions continued to be dictated by the production plan of the large-scale enterprise. Yet it provided an important experiment in small-group or individual initiative as a departure from large-scale organization and laid the foundation for various farm-restructuring schemes which prescribe distribution of land and assets to individual members in the form of shares. Farm restructuring through share distribution mechanisms is the accepted practice in Russia, Ukraine, Belarus, and Moldova, as well as some East European countries (most notably Hungary).

On a formal policy level, Turkmenistan always encouraged the development of intra-farm leasing. This was regarded as a vehicle for more equitable distribution of income in collective and state farms and as a tool for increasing economic motivation of workers and hence improving agricultural production efficiency. Measures announced in May 1993, for instance, limited the share of total value of production of lease groups that could be withheld by the collective farm in lieu of lease payments and as a contribution to general expenses of the community (35% of cotton value, 50% of grain, 50% of grapes, and 20%-25% of fruits, vegetables, and potatoes). The rest was to be used to cover production costs and pay group members for their work. The value of the lease contract from which these amounts were withheld was to be based on average yields achieved during the previous 3 years in the corresponding section of the collective enterprise before it was leased by the group, and all production in excess of the contractual obligation remained the property of the lease group. The lease group, however, was obliged to sell all its excess cotton and grain to the state, and only fruits, vegetables, and melons could be sold on local markets.

A more radical attempt to restructure the large-scale farms beyond intra-farm leasing arrangements was announced in March 1994 in Presidential Decree No. 1729 "On Restructuring of Kolkhozes, Sovkhozes, and Other Agricultural Enterprises in Turkmenistan". Large-scale farms were to be transformed into associations of peasant farms, shareholding societies and partnerships, cooperatives, associations, and other farm enterprises of various forms of ownership organized according to various principles of production. The workers were allowed to choose freely the preferred form of organization. Land was to be transferred in permanent use to the newly created organizational forms, and assets were to be leased with a right to buy. This mechanism did not allow privatization of land, nor did it go as far as distribution of shares in land and assets to individual members. Yet it envisaged a reorganization of existing large-scale enterprises into diverse

organizational forms, each exercising direct control of its resources. Even this farm-restructuring decree, however, stipulated that state orders on cotton and grain would remain in force for the new organizations.

The implementation of the March 1994 farm-restructuring decree was entrusted to a joint government committee, which proposed a list of 58 farm enterprises in all the five provinces that were to be "subjected to restructuring" in 1994. The list was based mainly on weak and unprofitable farms, with one or two "stars" included in each province. These "stars" had begun their own program of internal transformation long before the publication of the decree, and they were intended to serve as model examples for other farms in the region. The implementation process thus had an unpleasant flavor of administratively forcing a limited subgroup of farms to restructure, instead of proposing an open restructuring procedure that could be adopted freely by any farm desiring to reorganize. The committee moreover made the flawed (although perhaps natural) decision to start with weak and unprofitable farms in the hope of immediately improving their situation. Experience in other countries shows that this is a false hope, and weak farms can transform successfully (if at all) only after the foundations have been laid by transformation of a relatively large number of good or average farms.

Unfortunately, no data are available on the actual results of the March 1994 program to start with a transformation of 58 selected farms. Discussions with officials and lack of coverage in the state-controlled press, which usually reports all official accomplishments, seem to suggest that the program has never really got off the ground, and that the effort simply petered out. Perhaps in an attempt to correct for the lack of visible success of the 1994 farm-restructuring decree, the Turkmenistan government announced a new farm transformation program in June 1995.

The new program was encapsulated in a very short, two-paragraph presidential decree of June 15, 1995 which (a) abolished the existing large-scale farms (kolkhozes, sovkhoses, and interfarm enterprises) and created in their place so-called peasant associations ("daikhan birleshik" in Turkmen); (b) transferred the use and management of land and assets from the existing farms to the new associations. The decree was followed by the Law of Peasant Associations (June 15, 1995) with implementation regulations (Sept. 15, 1995). Judged from the terse wording of the presidential decree, the transformation from collective and state farms to peasant associations is merely a "changing of the sign". Yet the law and the regulations contain much substance intended to move the agricultural sector toward more meaningful and deeper restructuring.

A peasant association takes possession of all land and assets previously used by the large-scale farm from which the association is created. The assets are transferred without payment to the ownership of the peasant association, while land remains state property and is given to the association in use. The term for which land is given in use is not specified: neither the law nor the regulations say that land is given in "permanent use", as was the traditional practice in the past for collective and state farms. This is probably not an accidental omission. According to the State Land Committee, the government now has complete flexibility to take land away from associations if they misuse the land or do not produce with expected efficiency. This may provide a potential source of land for new applicants and serve as a means for reallocating land through non-market mechanisms. However, it places the producers in an untenable position of insecure tenure and puts them at the mercy of bureaucrats. Land reallocation from inefficient to more efficient users is best entrusted to market forces.

Another major provision of the new program is that each peasant association, based as it is on a former collective or state farm, may continue transforming through internal reorganization. The peasant association in Turkmenistan may create a variety of semi-autonomous internal organizational forms, including lease groups, peasant farms, subdivisions, livestock units, and other formations, all of which should operate on profit principles. The association may also establish profit-oriented agroservice operations. These internal divisions remain within the association. No mechanism for separating the land and assets of a division from the parent association has been specified.

In the process of reorganization, the ownership of non-land assets may be transferred from the association to the newly created subunits. Alternatively, the subunits may lease the assets from the association, as was the former practice. Land, however, remains the responsibility of the association and can only be leased to the subdivisions, because land is owned by the state, not the association. The draft Land Code provides the legal framework for leasing of land by the association to its subdivisions. It states (article 13) that "land owners and land users, regardless of the form of ownership, may give land in use to workers and collectives in the form of intra-farm lease contracts." This provision is essential to enable allocation of land to autonomous intra-farm subdivisions, because the original 1991 Law on Leasing stipulates that an asset can be leased out only by its owner, which in case of land is the state.

Documentation of use right is supposed to be issued to the association for the entire land area of the former farm enterprise (less unutilized tracts). The association is responsible to ensure that land resources are used as designated (i.e., for farming) and it is fully accountable for damage caused by inefficient use of land, environmental pollution, and other violations. This indirect leasing, or subleasing, looks highly unusual to the Western eyes, and is not practiced in this form in the European part of the former Soviet Union. Yet it is reminiscent of the practice in Israel, where state land is leased in large tracts to the village association (the moshav), which then subleases it to the members.⁵ It should be noted, however, that the Israeli practice has increasingly come under attack in recent years, and it will ultimately be changed to allow direct leasing of land by producers from the state.

Membership in the peasant associations is formally voluntary. Members have a right of free exit, and they may leave with their personal property and the household plot. However, they do not get a share of the association assets, either in kind or money, as these are not divided among the members. Nor do they get a share of the association land, because it remains state-owned. An exiting member may apply for a plot of land in virgin areas and other unutilized reserves, like any other citizen intending to become a peasant farmer.

The Law of Peasant Associations may express an intent on the part of the government to move the new organizations beyond a mere "changing of the sign" toward the creation of a true association of diverse forms of producers. These producers, while enjoying considerable operational autonomy, will be linked by strong lines to the association through a variety of leasing arrangements (most notably, leasing of land) and the overriding obligation to comply with state purchase orders. Like land, state purchase orders remain the responsibility of the association, and are allocated by it to the subdivisions on the basis of annual contracts. Because of the strong links between the association and its members built into the current legislation, future restructuring is envisaged mainly in the form of expanding intra-farm lease arrangements. As long as farms remain subject to the administrative constraints of Turkmenistan's command economy, and as long as lease divisions do

not have a meaningful mechanism for separation and exit, the associations are not likely to be more effective than their predecessors, the lease contract brigades of the later Soviet period.

The emphasis on expanding intra-farm lease arrangements is reflected in the President's program on deepening of market reforms and socio-economic development of Turkmenistan in 1996 (announced in the President's New Year speech on Dec. 27, 1995) and in the presidential decree "On Additional Measures for Reforming Peasant Associations in 1996" based on this program. The draft decree instructs the Ministry of Agriculture and the local authorities to speed up agricultural sector reforms by basing in 1996 all intra-farm production relations on contracts with autonomous subdivisions and families. The land and assets of peasant associations are to be assigned on long-term leases for not less than 10 years, which in principle is intended to ensure sufficient security of tenure.

Only growers of vegetables, melons, fruits, and grapes will pay a fixed lease payments (in cash or in kind) per unit land area and will be allowed to sell their output at free market prices. Cotton, grain, milk, and meat remain subject to highly restrictive state orders, and even excess output will have to be sold to the association, rather than in the marketplace. The obligation to sell to the state at fixed prices eliminates most of the motivation for individual initiative and efficiency improvement. In private discussions, farm managers in Turkmenistan stated that they would willingly give up any state assistance with input supply (which in any event has dwindled considerably) if only they could have freedom of decision on the sale of their output.

While all production is to be farmed out to lease groups and families in the village, the peasant association remains responsible for input supply, machinery, equipment maintenance and repairs, and other agroservice support activities. The contractors are required to pay for these services. The structure that emerges from this draft resolution is not unlike the Israeli moshav, an association of individual producers supported by a village-level cooperative that provides a variety of farm services to the members.⁵ In Israel, however, the producers are not (and have never been) subject to state orders, and are allowed to make free production and marketing decisions without government dictates.

Present members of the Turkmen peasant associations thus differ from Israeli moshav members. They are not independent producers, and they do not function in a market economy. The potential for the present farm units to evolve toward cooperatives of independent producers exists, if very fundamental further restructuring and privatization is allowed and encouraged.

Land Titling

Recent legislation has created three main categories of land users:

- Nearly 600,000 rural and urban residents with small household plots and gardens, totaling over 120,000 ha.
- A few thousand private farmers, each with up to 50 ha of land from virgin areas or unutilized reserves (a total of around 80,000 ha in 3500 farms as of the end of 1995).

- Some 500 peasant associations (former kolkhozes and sovkhoses) controlling 35 million ha of land.

Land in household plots, gardens, and private farms is classified as privately owned in the sense of the 1992 constitution. As such, more than half a million landowners are entitled to receive an official document confirming their title to this land. Before the title document is issued, the specific land plot has to be surveyed, mapped, and officially registered. The surveying and registration process is handled by provincial and district arms of the State Land Committee, which also issue a simple certificate of title. The certificate shows schematically the location of the land plot in relation to the adjoining territory and an outline of the borders and dimensions. The certificate is signed by the head of the district land management and surveying department, which also keeps track of the individual titles.

The wording of the certificate highlights the inherent ambiguity in the attitude of Turkmen legislation toward private ownership of land. The certificate confirms "private ownership of land ... with a right of lifetime inheritable possession".

Land allocated to private farmers receives a more formal title document (a state "akt"), which is issued by the State Land Committee and registered in the Registry of State Titles to Right of Possession and Right of Use of Land. The landowner receives one copy of the title document, and the other copy is filed at the district level. The title document includes a fairly detailed two-page map, drawn to scale and certified by the district land committee, and also space for listing outside owners and future changes in ownership and use. The preprinted part of the title document does not use the term "private ownership" (*sobstvennost'*) at all: it only uses the terms "permanent possession" (*postoiannoe vladenie*) and "use" (*pol'zovanie*). The filled-in handwritten part usually contains the same ambiguous formula as the certificate for household plots: "The land is given in private ownership in lifetime inheritable possession." The front page of the title document contains some excerpts from the 1990 Land Code, which provide insights into the philosophical attitude toward land in Turkmenistan (Table 5).

Table 5. Excerpts from 1990 Land Code Printed in Title Document

Land is the property of the peoples residing on the territory of Turkmenistan, and is owned by Turkmenistan.

Every citizen of Turkmenistan has a right to a plot of land.

Landowners and land users are responsible for efficient use of land in accordance with its designated purpose, for increasing its fertility, for applying nature-conserving production technologies, for preventing exhaustion of natural resources and deterioration of the environment in the region as a result of their activity.

Ownership and use of land in Turkmenistan requires payment.

Peasant associations created on the basis of former collective and state farms are supposed to receive new documents from the State Land Committee, conferring use rights to their land. These use rights will no longer be permanent, contrary to the traditional use rights of former collective and

state farms. The State Land Committee is conducting a full-scale survey of association lands in order to identify utilized and unutilized land, a process that is expected to take up to four years. The unutilized land will be extracted into the state reserve for redistribution, and the peasant associations will only retain the use of the remaining land. The official opinion is that this procedure will be simplified by the fact that the use rights of peasant associations under the new law are no longer permanent.

The State Land Committee is faced with a very important task, as titling of land is an essential component in the transition to a market economy. The four-year overall land survey project is a relatively standard job for the Land Committee with its various institutes. Titling of hundreds of thousands of individual landholders is something entirely new for the system, but it seems to be progressing without undue delays. The system as it is designed today keeps the title documents and the registry at the district level, which is probably entirely sufficient at the present stage. It is desirable to develop a standard title document for all plots, instead of two different documents in use today (one for household plots and one for peasant farms). Even if this is not done, the household plot certificate preferably should also include a page for listing ownership changes, like the peasant farm "akt". In the future, a central registry will have to be developed to pool and duplicate the data stored on the district level, without eliminating the district systems. This is essential in order to allow transactions to be initiated and handled from a location outside the specific district center where the records are kept, an important consideration in a country with a geographically dispersed population.

The current land registry is manual and is maintained on "paper storage." A more modern computerized system of land registry will be needed in the future if market transactions in land become legal.

Conclusion

Land reform in most of the FSU involves privatization of land, i.e., transfer of land from state ownership to private ownership of collectives in large-scale farms. The establishment of such joint private ownership is an essential first step toward ultimate transfer of land to individual ownership. The land policy that emerges from the legal documents in Turkmenistan (specifically from the June 1995 Law of Peasant Associations and its attendant regulations) suggests that this country does not intend to follow the practice of Russia, Ukraine, and other former Soviet republics and has no plans to implement large-scale privatization of state-owned lands. The intention on the whole is to lease land out to producers, while retaining state ownership of most agricultural land.

Private ownership of farm land is prevalent but not universally practiced in market-oriented economies. Two notable examples are the Netherlands and Israel, where much of agricultural land is state owned for specific historical reasons. Yet in Israel, for instance, state-owned agricultural land is handled in practice like privately owned land: farmers have long-term security of tenure and individual farms can be transferred at negotiated market prices. Long-term leaseholds can be made equivalent to ownership rights if they have properties of ownership, and if economic agents accept them as equivalent. With the firm prohibitions against land transactions in the present legal framework in Turkmenistan, neither leaseholds nor private ownership will be equivalent to ownership, and neither will encourage the needed private investments of rural households. Moreover, ten year leases are too short for the large investments required.

While family farms are common in many market economies, isolated individual farming is not always the norm. Successful agricultural cooperation in farm services and processing is observed in North America, Europe, and other parts of the world. One of the two major forms of agricultural cooperation in Israel, the moshav, combines private initiative and private production on state-owned land with cooperative services at the level of the village and the region. Yet, unlike the traditional collective farms in the former Soviet Union, agricultural cooperatives in market economies are voluntary, democratically run organizations, with internally elected officials and an active role for the general assembly. Moreover, the function of agricultural cooperatives in market economies is to strengthen the position of the producers in the face of inefficiencies and failures in market services and institutions. They are not organized in order to extract farm output and income for the state. Secure land tenure, family-based production, and a supportive network of democratically run service cooperatives functioning in a market-oriented environment without gross government intervention can provide a framework for rural recovery in Turkmenistan, if the necessary institutions are created and policies are changed.

NOTES

1. The data in this article are based on official statistical publications and on information collected by the authors in the course of World Bank agricultural sector missions to Turkmenistan in June-December 1995. The official statistical publications are *Narodnoe khoziaistvo v SSSR v 1990 g.: Statisticheskii ezhegodnik*, Finansy i Statistika, Moscow (1991); *Turkmenistan v 1993 godu: Statisticheskii ezhegodnik*, Goskomstat Turkmenistana, Ashgabat (1994); *Sodruzhestvo Nezavisimyykh Gosudarstv v 1994 godu: Statisticheskii ezhegodnik*, Mezhgoskomstat SNG, Moscow (1995); *Sodruzhestvo Nezavisimyykh Gosudarstv v 1995 godu: Kratkii spravochnik statisticheskikh itogov*, Mezhgoskomstat SNG, Moscow (1996). The current information in Turkmenistan was provided by the State Committee for Land Reform, State Committee on Statistics, and Ministry of Agriculture.
2. See *Turkmenistan: Rationalizing the Health Sector*, Report 14861TM, The World Bank, Washington, DC (Sept. 1995) and *Turkmenistan: Review of the Agrarian Sector*, Report, The World Bank, Washington, DC (1996).
3. Some recent information on exports from Turkmenistan can be found in *Sotsial'no-ekonomicheskoe polozhenie Turkmenistana za ianvar'-dekabr' 1994 g. (kratkii obzor)*, Goskomstat Turkmenistana, Ashgabat (1994); *Sotsial'no-ekonomicheskoe polozhenie Turkmenistana za ianvar'-iiun' 1995 g. (kratkii obzor)*, Goskomstat Turkmenistana, Ashgabat (1995).
4. For a discussion of farm restructuring in the USSR during Gorbachev's period, see K. Brooks, "Soviet Agriculture's Halting Reform," *Problems of Communism*, vol. 39, no. 2, pp. 29-41 (1990).
5. For a discussion of the structure and the theory of the Israeli moshav, see P. Zusman, *Individual Behavior and Social Choice in a Cooperative Settlement*, The Magnes Press, Jerusalem (1988).

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