

# An Approach for Turkish Agriculture: Group Farming

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## Gruppen-Landwirtschaft: Ein Ansatz für die türkische Agrarwirtschaft

### 1. Introduction

The problems of agriculture affect mostly the small scale farmers who have small fields in different places. Moreover, the farmers usually hire the land or cooperate with the land owner in each crop season. The owners do not live on the land, but lease it out setting difficult conditions for tenant. The other production factors such as modern technology, credit possibility and cooperation mentality do not exist.

Group farming was implemented in order to solve problems of small farmers after the 2<sup>nd</sup> world war in many underdeveloped countries (SHERIEF, 1991). The group farming is characterized by jointly using land and agricul-

tural inputs. Furthermore, the group farming is a production unit which is voluntarily formed by the farmers in order to get more benefit than individual farming (INAN, 1984). The aim of group farming is to use more efficiently the scarce resources which might be land, labours and capital, etc. Group farmings might be called as a special kind of cooperative or a collective farming in literature.

It is generally accepted that the group farming increases productivity. Group farming is not a common production system, even though there are plenty of small holdings in Turkish agriculture. Thus, group farming should be introduced to the farmers to get more benefits from it in Turkey. Group farming can promote more efficient use of resources in terms of greater farmer participation, more effective

### Zusammenfassung

Die Notwendigkeit wirtschaftlichen Wachstums in der Landwirtschaft gründet auf der hohen Effizienz beim Einsatz von Produktionsfaktoren, speziell von Boden und Maschinen. In der türkischen Landwirtschaft haben die Grundbesitzer eine Vielzahl an Feldstücken, darunter kleinste Parzellen.

Kleine Wirtschaftseinheiten verhindern das Erreichen hoher Produktivität bei einigen Produktionsfaktoren.

Es ist unvermeidlich, eine Landreform durchzuführen oder Regeln für „Group farming“ (Gemeinschaftsbetriebe) zu schaffen.

„Group farming“ beruht auf gemeinsamem Gebrauch der Produktionsfaktoren, der bessere Resultate liefert als individuelle Betriebssysteme.

In dieser Studie wird „Group farming“ in einigen Ländern und in der Türkei diskutiert, und es werden einige Schritte für die Entwicklung des „Group farming“ in der Türkei vorgeschlagen.

**Schlagnworte:** Kooperative Betriebsführung, Gemeinschaftsbetriebe, ländliche Entwicklung, Produktivität, Betriebsstruktur, Kleinbetriebe.

### Summary

The need for economic growth in agriculture was based on high efficiency in the utilization of all productive factors, especially land and machinery. The holdings on Turkish agriculture have many parts of land within the smallest parcels. Small scale of economy prevents to get high productivity of some production factors. It is inevitable to implement land reform or to organize some regulations for group farming. Group farming is based on jointly used productive factors and performances making better than the individual farming system. In this study, group farming in some countries and Turkey was discussed and some steps for developing of group farming in Turkey were proposed.

**Key words:** cooperative farming, collective farms, rural development, productivity, farm structure, small farms.

delivery of inputs and other support services such as extension and credit, better utilization of farm machinery and agricultural facilities, and improved marketing of farm products (APO, 1994).

In this study, some experiences on group farming in the world were explained. After, the problems of farm structure in Turkey were studied and especially, the problems due to the land distribution and some precautions which should be taken to solve them by using the cooperation in Turkish agriculture were discussed.

## 2. The development of group farming in some countries

Group farming means to produce together to have some advantages of economy on scale (DINLER, 1993). Group farming was first time implemented post 2<sup>nd</sup> world war in France. Group farming in France consisted of two or three families. In 1962 the French government passed a law providing for the institutionalization of Groupements Agricoles d'Exploitation en Commun (GAEC), or joint farming agricultural groupings. It did so in response to rural unrest and to the need for agricultural modernization created by the involvement of France in the EC. In the first decade of their introduction, communal GAECs between neighbours were the dominant form of association, while in recent years kin-embedded GAECs, especially associations between one man and his son, prevail all over France, according to a twelve months field work in south-eastern France (FERRARO, 1991).

In India group farming is implemented as it overcomes the resource constraints faced by individual households. There is a clear indication that modern techniques relating to irrigation, plant protection and credit utilization are being employed. It is recommended, however, that greater efforts should be made to reduce the cost of cultivation and raise profitability (VENKITESWARAN and KUNJU, 1991). In the Kerala-India groups are formed to enable small farmers to adopt productivity increasing technologies, including power cultivation on very small plots by supporting for group (SHERIEF, 1991). Another project was implemented in the province of Gujarat in India. The Gambhira Society is a unique successful experiment in group farming (MOHANAN, 1992). An other example shows a 24 % increase of annual income by using the group farming approach in the area of Jind of India (JOGINDER et al., 1989).

Since the mid 1950s small farm development in Taiwan has lagged behind overall development. Land holdings have become increasingly fragmented and production increasingly capital intensive; this has resulted in rising production costs, low return on investment and low farmers income. Group farming in Taiwan has caused to rise farmers income and to reduce marketing cost and increased the scope for progress of the small scale farmers (CHEN, 1992).

Total factor productivity in communal agriculture in Zimbabwe grew at 1.73 % per annum from 1975 to 1990. Growth was negative before independence in 1980 and then reached over 8 % a year, but turned negative again after 1985. The success following independence can be explained by the widespread adoption of modern technology, especially in maize production. Adoption was driven by the reorientation of government policy towards the communal sector, which led to improved price incentives and public provision of essential infrastructure investments, such as marketing depots and farm credit facilities. However, the high costs of support proved to be unsustainable and productivity declined from 1985 (ATKINS and THIRTLE, 1995). A successful sample for group farming was implemented in the north of Masvingo province of Zimbabwe. It was a 500 ha farm with 36 members. The land is owned by the government. Members worked on the farm and shared the profit they made collectively (CHARLTON, 1995).

The formation of agricultural production cooperatives in Cuba is discussed as a solution to mechanization of small farms. Production cooperatives allow land to be exploited rationally, crop and livestock production can benefit from the economies of scale and modern inputs including tractors, agricultural machinery and irrigation can be justified and used efficiently (SIMS et al., 1993).

The group ranch concept was implemented in various districts in Kenya in the mid 1960s and early 1970s and aimed at overcoming some of the problems related to sharing land resources. The sharing was based on a defined livestock quota system which was not implemented. Individual member's benefits depended on herd size, especially the size of the breeding herd which determined herd growth. The group ranch approach advocated a policy of destocking through periodic livestock sales aimed at achieving proper carrying capacity but this was viewed negatively by most pastoralists (NGETHE, 1993).

Acceptance of the need for complementary services, when agrarian reform is introduced, such as credit and technical assistance, has led many countries in Latin America to orga-

nize land reform projects into collective or production cooperatives. But the disincentives inherent in group farming have been a continual source of underproduction and disappointment with cooperative farming experiments (MEYER, 1990).

Japanese agriculture is facing a critical situation with high production costs and a decrease in number of farm successors. There is a need for extending the scale of farming organized on a group farming basis. A computer simulation is conducted to evaluate machine cost and working hours of farm machinery for group farming. This enables the most suitable combination for the farming system to be determined (MIYASAKA et al., 1994).

In Czechoslovakia an offer of legislation was discussed in the parliament in 1987. In this offer, the role of agriculture on the socio-economic development was explained by using the group farming. Furthermore, it pursues a fundamental improvement in the management of the essential part of the agricultural food complex, cooperative farming. The extent and development of the state and cooperative farming sectors in Czechoslovakia in the 1980s is considered. Cooperative farms and joint farming enterprises represent the most important part of Czechoslovakian socialist agriculture (MATOUSEK, 1988).

Consolidation to regulate ownership and land use to create viable production units was carried out in Hungary over the period 1959-62 while large socialist farms were being created. The introduction of industrial production methods and concentration and specialization of production led to the need for further modifications in farm structures. Current adjustments also have to take account of landscape, nature and environment conservation. Thus, the organization of state and collective farms and other cooperative farming groups as well as regional and local development planning arrangements have been closely followed in Hungary (SZABO et al., 1992).

Various types of inter-farm cooperation have been characteristic of Polish farming for many generations and institutionalized forms of cooperation date from the early 19th century. Post-1945, the government tried unsuccessfully to use this experience as a basis for complete collectivization. By the late 1950s it dropped this goal, encouraging simpler forms of cooperation between groups of family farms. By the 1970s it was subsidizing these farm groups heavily in an attempt to accelerate socialization. This policy also failed and, when the subsidies were removed in the 1980s, nearly all groups disappeared. Under current conditions Poland urgently needs to modernize farming and discussions are

proceeding on types of inter-farm cooperation which will allow the economic adoption of modern farming technology (POCZTA, 1992).

Privatization and structural changes in Central and East European (CEE) agriculture prove to be more complex than was initially expected. Changes in structure and type of organization were slower and less straightforward than was hoped. While CEE industry has been able to adopt the West's successful structures and forms without too much difficulty, agriculture has had much more difficulties in finding a suitable model to copy. While there is a variety of types of organization which former cooperative agricultural enterprises in the CEE can adopt the form most specific to agriculture is the transformed cooperative. Both production and service cooperatives are being developed in this process with experts seeing service cooperatives as having greater long term viability (JANDA and LUTTEKEN, 1995).

### 3. Farm structure in Turkey

Turkey is a candidate for EU full membership. But, agriculture which still is one of the main sectors has some structural and organizational problems. Therefore, new programmes should be adopted as soon as possible. While everyday the number of farms is increasing, the average farm size is decreasing. In contrast, in EU countries, the number of farms is decreasing and agriculture is being carried on in large-modern farms (Table 1).

The latest General Agricultural Census in Turkey had been done in 1991. It is observed that the number of holdings have been increased in Turkey. For example, 3.6 million holdings were reported in 1980 and this number became 4 million in 1991. In 1980, 61.12 % of farm holdings had total land lower than 5 ha. This figure was 67.05 % in 1991. These holdings had 22.12 % of total farm land in Turkey. While the land size per holding was 6.2 ha in 1980, it declined to 5.7 ha in 1991 (Table 2).

The data according to regions was given as follows; 77.92 % of holding numbers in Ege region was below than 5 ha. This figure was 73.54 %, 85.84 % and 45.07 % in Akdeniz, Karadeniz and Southeast regions, respectively (Table 3).

The holdings have so many spreaded parcels with small sizes. The reason for this is that the total farm land was divided into many parcels because of population pressure and inheritance. According to the census results of agriculture, 35.68 % of holdings had 1-3 parcels and 64.32 % of

Table 1: Holdings by size classes of utilised agricultural area in EU countries (1000s) (1997)  
 Tabelle 1: Zahl der Betriebe nach Größenklassen der landwirtschaftlichen Nutzfläche in EU-Ländern (in 1000) 1997

Countries	Holding size classes					Total
	less than 5 ha	5 to 20 ha	20 to 50 ha	50 to 100 ha	100 ha or more	
EU 15	3901.7	1686.9	802.0	372.2	226.3	6989.1
Belgium	21.6	21.0	17.8	5.6	1.1	67.1
Denmark	2.2	23.8	19.6	12.0	5.6	63.2
Germany	168.1	168.2	122.4	53.3	22.3	534.3
Greece	626.8	169.9	21.6	2.7	0.5	821.5
Spain	647.1	347.1	115.3	51.5	47.3	1208.3
France	182.4	136.8	158.9	125.7	76.1	679.9
Ireland	11.1	58.5	57.4	16.6	4.2	147.8
Italy	1753.6	424.1	96.0	27.4	14.1	2315.2
Luxembourg	0.7	0.5	0.6	0.9	0.2	2.9
Netherlands	34.5	36.5	29.2	6.6	1.1	107.9
Austria	79.6	86.2	35.8	5.7	2.8	210.1
Portugal	317.1	75.2	14.8	4.2	5.4	416.7
Finland	7.9	41.9	33.7	7.0	1.1	91.6
Sweden	12.8	34.1	23.6	13.1	6.0	89.6
United Kingdom	36.2	63.1	55.4	39.9	38.6	233.2

Source: Eurostat, 2000, Yearbook – A Statistical Eye on Europe, Data 1988–98, Rome.

Table 2: Holdings by classes of utilised agricultural area in Turkey  
 Tabelle 2: Zahl der Betriebe nach Größenklassen der landwirtschaftlichen Nutzfläche in der Türkei

Holding size class (ha)	The rate of holding within the total numbers of holding (%)		The rate of holding within the total utilised agricultural area (%)	
	1980	1991	1980	1991
1–1.9	28.3	9 34.92	4.14	5.63
2–4.9	32.73	32.13	15.88	16.49
5–9.9	20.75	17.98	21.27	19.94
10–19.9	11.84	9.66	23.84	20.99
20–49.9	5.46	4.38	22.85	19.82
50 ≥	0.83	0.93	12.02	17.13
Total	100.00 3.650.900	100.00 3.966.822	100.00 2.276.400 (ha)	100.00 2.345.110 (ha)

Source: State Institute of Statistic, General Agricultural Census, Ankara, 1980–91

holdings had 4 and more than 4 parcels in 1980. 43.27 % and 56.73 % of total holdings had 1–3 parcels and 4 or more than 4 parcels in 1991, respectively (Table 4).

Turkish agriculture is facing a critical situation because farms spreaded to so many parcels and the little size of them. This indicates structural problems in Turkish agriculture. It will cope with the using of land reform. But, it is difficult to undergo this activities because of shortage in time and finance possibilities. On the short-term, it is needed farmers participation solving the problem. Farmer participation means group farming, jointly operated organization on farm.

#### 4. The efforts for group farming in Turkey

The group farming was tried by cooperatives but it was left because of failure results. The most important example of this implementation was tried by Rural Development Cooperative of Seymen in 1976. This implementation was supported by some agricultural machineries and credit by Turkish Agricultural Bank. And the developing plan of forth five years between 1979-83 was indicated to support collective production by cooperatives without making any intervention to the property rights (INAN, 1984).

All the members of Seymen Cooperative were not joined to the group farming when it was founded in 1975. Although the members of Seymen raised to 80, the number of mem-

Table 3: The holding size in regions of Turkey (1991)  
 Tabelle 3: Die Betriebsgrößen in den Regionen der Türkei (1991)

Regions	Holding size class (ha)						Total
	1–1.9	2–4.9	5–9.9	10–19.9	20–49.9	50 ≥	
Midnorth %	104 915 22.02	149 645 31.41	108 162 22.70	71 010 14.9	1 38 331 8.05	4 340 0.91	476 403 100.00
Ege %	327 134 41.80	282 711 36.12	120 703 15.42	40 900 5.23	10 493 1.34	755 0.09	782 696 100.00
Marmara-Trakya %	95 592 29.39	109 923 33.80	74 106 22.79	34 999 10.76	9 463 2.91	1 129 0.35	325 212 100.00
Akdeniz %	197 050 42.63	142 884 30.91	74 769 16.18	31 336 6.78	13 454 2.91	2 703 0.59	462 196 100.00
Northeast %	78 757 34.32	64 961 28.31	45 333 19.76	26 056 11.35	12 462 5.43	1 903 0.83	229.472 100.00
Southeast %	73 595 22.04	76 882 23.03	67 506 20.22	59 585 17.85	37 907 11.35	18 395 5.51	333 870 100.00
Karadeniz %	317 687 49.62	231 919 36.22	67 483 10.54	18 129 2.83	4 659 0.73	387 0.06	640 264 100.00
Mideast %	88 778 28.26	110 454 35.16	65 815 20.95	33 423 10.64	13 369 4.25	2 325 0.74	314 164 100.00
Midsouth %	101 621 25.24	105 230 26.14	89 272 22.18	67 885 16.86	33 636 8.36	4 901 1.22	402 545 100.00
Total %	1 385 129 34.92	1 274 609 32.13	713 149 17.98	383 323 9.66	173 774 4.38	36 838 0.93	3 966 822 100.00

Source: State Institute of Statistic, General Agricultural Census, Ankara, 1991

Table 4: Holdings by number of parcels in Turkey  
 Tabelle 4: Zahl der Betriebe nach Anzahl der Trennstücke in der Türkei

Number of parcel	Number of holding (%)	
	1980	1991
1–3	35.68	43.27
4–5	22.39	22.79
6–9	22.23	19.15
10 ≥	19.70	14.79
Total	100.00 3 943 300	100.00 3 966 822

Source: State Institute of Statistic, General Agricultural Census, Ankara, 1980–91

bers who was joined to the group farming is 16 in 1976. In 1980 the number of members raised 120 and 22 of them joined to the group farming. The maximum size of land was limited at 10 ha to encourage for being a member of group farming. In 1980 the land under the group farming reached 99 ha cultivated with wheat, sunflower and kolza.

This project in the Seymen was implemented by farmer as voluntarily. It aimed to use advantages of economy of scale. This project was similar with the projects which were implemented in France, Spain, Japan, South Korea, China, Den-

mark, Norway, UK, Ireland on the principles of the property of land, the distribution of income and the independency of farmers. Distribution of income in the Seymen Project was done by participation of labour, land and capital.

The results of the project in Seymen indicated to provide some positive effects given as follows:

- Agricultural machinery will be used in full capacity,
- the most quality seed and the good amount of fertilizer will be used in time,
- increase of income and decrease of costs will be done by the elimination of unnecessary expenditures,
- extra employment possibilities will be created in the cooperative,
- the generated new income will be higher than the rental income.

The implementation of Seymen group farming caused some important interior effects in productivity. The gross profit was raised extremely through the productivity of land and labour. But this project hadn't been overcome by some reasons.

Another similar project was implemented in Bayindir, Izmir. This has been implemented for 6 years with 11 farmers on 30 parcels. This area covers 45 ha. By collect-

ing the 30 parcels was gained 8 % of land than previous. This implementation provides some efficiency on the pumped water and its instruments and the using of tractor. According to the audited information the income of this implementation was distributed by allocated land and participation of activities (ENGINDENİZ and KENANOĞLU, 1996).

Another project was realised by some farmers in the county of Tire-Izmir. Few farmers get together all financial supports for establishing an irrigation project. They constructed many pumps and pump line for getting out the water from the ground and a watering line. All the farmers paid the same share of the fixed investment cost. This cooperation was founded under the private group.

Furthermore the implementation of this kind of project which was implemented to provide machinery was seen on cooperatives as a jointly used machinery system. According to information of agricultural census 20.68 % the holdings use their own tractor, 3.32 % use tractors on jointly ownership and 67 % of them use tractors by rental. Jointly using machinery system is implemented in Turkey by Agricultural Credit Cooperatives and Rural Development Cooperatives. This system was widely used on the middle and west part of Turkey by Agricultural Credit Cooperatives, but these cooperatives which give service for this area was gone to decline. So, it is known that cooperatives which provide service for jointly used machinery are 16 Agricultural Credit Cooperatives and 17 Rural Development Cooperatives (MÜLAYİM, 1992).

## 5. Conclusion

In many countries all over the world group farming found an area to implement in agriculture. The most important difference between individual and group farming is to be at least two farmers in the group. The most important reason for group farming is to increase income by using the economy of scale. Group farming should be introduced wherever possible. By pooling their smallholdings, farmers increase their productivity through use of improved techniques of cultivation.

Efforts of improving the quality of life of small farmers in Turkey need to be directed towards increasing the productivity of the smallholder. But there was no efforts for this approach up to now. There is no possibility to prevent difficulties with the agricultural structure in the short-term. Seymen project failed. But it was a good experience for

Turkey. If some steps are taken for group farming, it can be a basis for efficient resource utilization for small and marginal farmers in Turkey. Some precautions should be taken on the legislative and organizational levels.

- Some regulations should be reformed for making easy grouping activities in Turkey. So, some changes should be done in Turkish cooperative legislation for encouraging of group farming.
- The group farming should be considered in governmental agricultural policy concepts. Credits for this kind of organization on the possible lowest interest rate can be thought. In the 8<sup>th</sup> five years plan (2001–2005) some specific legislation for establishing a producer union from producing to marketing was indicated.
- The extension service should be given to farmers on this topic.
- A leader for the rural area should be found to encourage the others.
- Group farming should cover both plant and animal production.

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