



OCCASION

This publication has been made available to the public on the occasion of the 50th anniversary of the United Nations Industrial Development Organisation.

TOGETHER

for a sustainable future

DISCLAIMER

This document has been produced without formal United Nations editing. The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Industrial Development Organization (UNIDO) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries, or its economic system or degree of development. Designations such as "developed", "industrialized" and "developing" are intended for statistical convenience and do not necessarily express a judgment about the stage reached by a particular country or area in the development process. Mention of firm names or commercial products does not constitute an endorsement by UNIDO.

FAIR USE POLICY

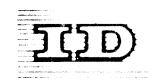
Any part of this publication may be quoted and referenced for educational and research purposes without additional permission from UNIDO. However, those who make use of quoting and referencing this publication are requested to follow the Fair Use Policy of giving due credit to UNIDO.

CONTACT

Please contact <u>publications@unido.org</u> for further information concerning UNIDO publications.

For more information about UNIDO, please visit us at <u>www.unido.org</u>



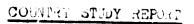


D00690

United Nations Industrial Development Organization

Expert Group Meeting on Agricultural Machinery Industry in Developing Countries

Vienna, 13 - 22 August 1969



STATUS OF AGRIDULTURAL MADE DEAY LID STRY LA PURKEY 1/

Ъу

C. Kirac K.O.C. Holdings A.S., Instanbul, Turkey

1/ The views and opinions expressed in this paper are those of the author and do not necessarily reflect the views of the secretariat of UNIDO. This document has been reproduced without formal editing.

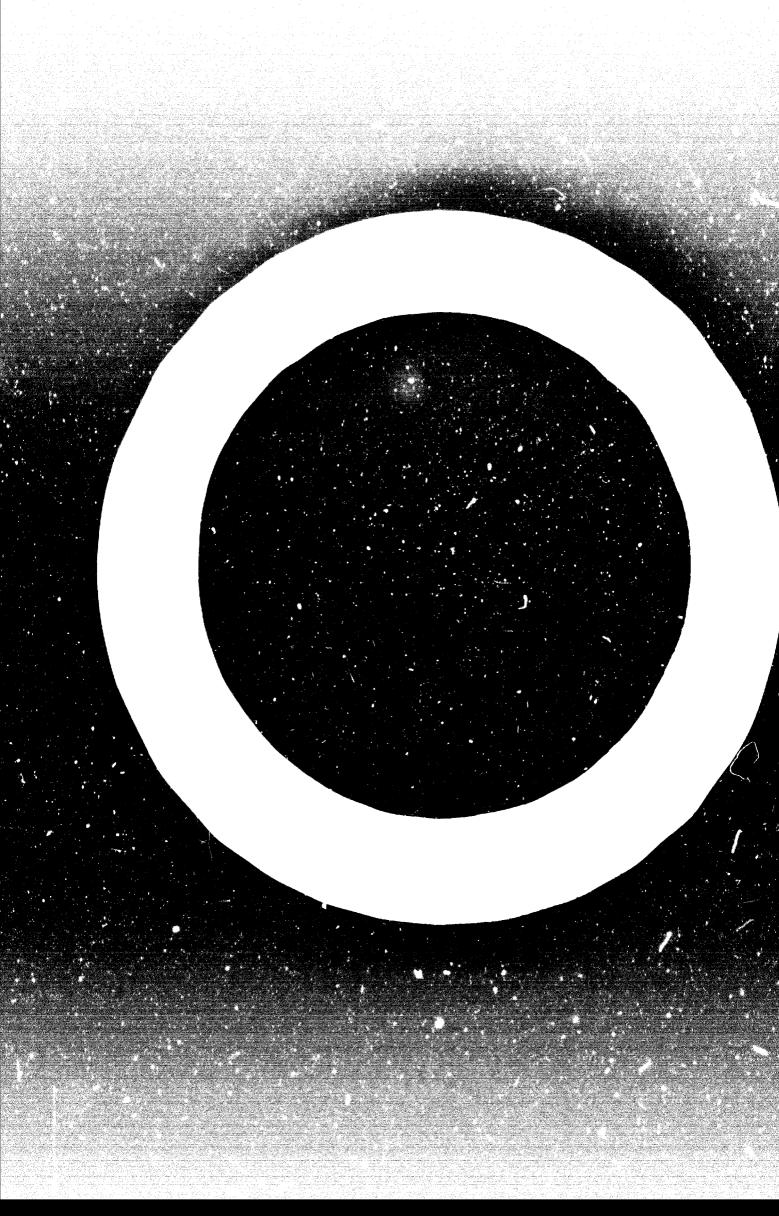
t,

1d. 69-3656

LUI ALLIS^AH**P.4** LUI ALLIS^AH**P.4** LUI ALLISI GREDINALI ENGLISH

Justr.

We regret that some of the pages in the microfiche copy of this report may not be up to the proper legibility standards, even though the best possible copy was used for preparing the master fiche.



GENERAL ASPECTS OF AGRICULTURE IN TURKEY

IMPORTANCE OF AGRICULTURE.

The agricultural sector has the largest share in the national income, the active population and export earnings of the Turkish economy. 30% of the national income is agricultural income. The size of the active population in this sector is 10 million and the ratio of agricultural workers to total active population is 72%. Agricultural products constitute 75% of Turkey's exports.

MANPOWER IN AGRICULTURE:

Turkey's population is increasing at a rate of 26 per thousand each year and this situation is leading to both a decrease in per capita income and forcing 1 million 200 thousands people to continue searching for new jobs. The distribution of the now almost 14 million working population with respect to main sectors is as follows:-

Sector	Working Population (000)
Agriculture	9.940
Industry	1.423
Commerce	498
Construction	472
Transportation	339
Services	1.066
	13.738

As observed in most developing countries, the contribution of the agricultural population to domestic income is at a minimum level compared to other sectors and it is predicted that this situation will continue for some time.

MODERNIZATION IN AGRICULTURE:

The Turkish agriculture is inclined towards modernization in order to transfer this 72% big mass as of active population to other sectors of the economy. The number of tractors in Turkey has reached 85.000 by the end of 1968, whereas, this number was only 1.100 in 1945. Within the same period, area cultivated by tractors has increased from 87.000 hectars to 6 million 400 thousand hectars. Chemical fertilizers used per hectar have gone up to 10 kg. from 0.14 kg. and the area of irrigated land amounts to 2 million hectars by the end of 1968. If this rate of growth continues, the ratio of agricultural population to total active population will fall to 65% by 1972.

DISTRIBUTION OF LAND:

The utilization of land in Turkey has gained a stable nature with respect to area. According to 1967 figures, 30% of the total area is being cultivated, 40% is meadows and pastures, 13% is forests and unproductive soil constitutes the rest which is 17%. 14 million 170 thousand hectars are sown, 7 million hectars are fallowed and 2 million 350 thousand hectars are fruit and vegetable gardens making a total of 23 million 500 thousand mectars. The following table shows the distribution of agricultural land with respect to size of farms:-

Size of Farms (Decar)	Number of Farms	Ratio (%)	Size of Total Area (Hectar)	Ratio (%)
1-50	2.132.000	68,8	5.219.000	24,8
51-200	853.000	2 ", 5	8.775.000	41,7
201-1000	111.000	3,6	4.932.000	23,4
1000 or more	4.300	0,1	2.146.000	10,1

Land portions constituting these agricultural farms are shown by the following table:

Number of Pieces	R atio (%)
Single piece	9,6
2-3 pieces	20,8
4-5 pieces	19,9
6-9 pieces	24,9
10 or more pieces	24,8
	100,-

Below is shown the area used in the production of the main crops:-

C r o p s	Area (1000 Hectars)
Wheat	6,900
Barley	2.560
Seed crops	725
Cotton	700
Maize	60 0
Sunflower	270
Tobacco	216
Sugar beets	180
Potatoes	160
Rice	57
Grapes	800
Olives	654
Vegetables	300
Citrus	37
	e (

MECHANIZATION IN AGRICULTURE:

In every region of Turkey that is available for agriculture, there is a trend towards mechanization within the limits of the farmers' payment possibilities. The table showing the increasing number of tractors used and area cultivated by tractors, also confirms this improvement:

	1963	<u>1966</u>	<u>1968</u>
Number of tractors	50 .80 0	65.000	85.000
Area cultivated by tractors (1000 hectars)	3.800	4.800	6.400
Area cultivated by draft animals	19.700	18.700	17.100

In spite of this improvement, Turkey's agriculture still depends on animal power. Figures show that the number of draft animals in Turkey was 2 million 700 thousand in 1968. Area cultivated by these draft animals is 17 million 100 thousand hectars. The following table shows the 1968 figures of main Turkish agricultural equipment and machinery:-

Wooden plows	2.084.000
Wheelless plows	4 55 . 0 00
Wheeled plows	1.000.000
Tractor driven drills	12.500
Animal driven drills	35,000

Cotton drills	22.000
Beetroot drills	7.000
Mowers	28.000
Threshing sled	2.330.000
Binders	3.000
Combines	8. 0 00
Sprayers	135.000

MANUFACTURING OF AGRICULTURAL EQUIPMENT AND MACHINERY:

Tractor manufacturing occupies the largest division in this sector. Since the inclusion of tractors in the assembly production in 1960, importing of tractors has been binded excluding 56-65 HP tractors, two-wheeled tractors and crawler tractors which cannot be locally manufactured. Imported tractors meet only 5% of yearly demand. Savings on foreign exchange from assembling industries have reached a level of 50% by 10w. In 1968, six different firms have actually achieved assembly and production of agricultural tractors. A total production of 15.500 have been realized in 1968. The following table shows production by each make:-

Make	Units
Massay-Ferguson	6700
Ford	3700
FIAT	3200
Nuffield	1100
McCormick	450
Hanomag	350
	15500

Total production is being divided into small segments, because of the great number of firms in this sector. Therefore, until now, firms have tried to avoid large investments. But, in 1969, Massey-Ferguson's project for a yearly production of 20.000 units and FIAT's project for a yearly production of 10.000 units have been approved. Thus, by 1972, these two firms will be able to increase their production and realize at least 64% local Another factor which will increase the local content in the near future is the approval of the Perkins diesel project by the Turkish Government.

Progress is also observed in the production of other agricultural equipment and machinery besides tractors. Unfortunately, the capacity of production is not yet sufficient to meet domestic demand of the main items. Since the demand for agricultural equipment and machinery is a seasonal demand, it is met by a continuous domestic production and stocking in periods of low demand. However, this situation prevents the manufacturers and distributors from making large production

The following table summarizes the realized production of agricultural equipment and machinery in 1968:-

	Units
Tractor	1 5.5 00
Tractor plow	7.200
Tractor drill	3.200
Tractor trailer	4.200
Combines	110
Animal-drawn drill	13.500

INCREASING DEMANDS:

Turkey's demand for agricultural equipment and machinery in 1975 is predicted to be as follows:-

Tractor	40.000
Tractor plow	30,000
Tractor drill	10.000
Tractor trailer	25.000
Combines	1.000

ENCOURAGEMENT OF THE AGRICULTURAL MACHINERY INDUSTRY:

The private sector's investments in this field are encouraged by lowering of taxes, in order to attain the above targets of production. These are:-

- Tax exemptions for investments up to 80%,
- Custom duty exemptions for investment goods up to 100%,
- Duty payments by installments,
- Less expensive credits for industrialists.

FARMERS' CREDITS:

In Turkey, the farmers get credit for tractors and agricultural equipment from the Agriculture Bank. The amount and payment conditions of the loan depend on the kind of the machine to be bought, the kind of crop to be produced and the geographic region of the farm. A duration of four years is possible for tractor credits. These loans cost the farmers about 12% each year. However, the interest expenses of loans from the private sector exceed 18%. In 1968, 6 billion Turkish Liras, making 25% of total credits were allocated for agricultural credits.

CONCLUSION:

In order that capital goods and raw materials required by the economic development of Turkey, and the consumption goods for the needs of the public can be imported in sufficient quantities, it would be necessary to increase agricultural production and exports.

It is required to change the production technique and develop the technology applied in agriculture, to have the above principle realized. Thus, increasing the productivity of agricultural production will help both provide a higher standard of living for agricultural workers and augment the contribution of agriculture to Turkish economy.

However, the primitive condition of agricultural implements in Turkey as well as the inadequacy of the machinery and equipment required by modern technology, increase the difficulties of carrying out agricultural work properly and on time.

On the other hand, because of climate and soil conditions, one third of the arable land is left fallow. Production on a fallow basis does not allow efficient utilization of the land, manpower and capital.

Finally, the fact that agricultural operations in Turkey are divided into too small units, causes a decrease in the quantity of the products marketed by the farmers; so these farmers work as producers with low productivity and negligible income, burdened with high debts and producing only to satisfy their own needs. In view of all these circumstances, could it be argued that the general agricultural conditions in Turkey would allow technologic advancement?

Pactors such as military service and education, development of communications and transportation facilities, population movements due to industrialization have brought Turkish farmers into contact with the external world. Now Turkish farmers desire an easier life, to eat better, to purchase radios and refrigerators, to use electricity, in short, a higher standard of living. It is this desire that has created the environment in which technological development in Turkish agriculture can be realized.

The problem is to give impetus to the planned equipping and education of Turkish farmers, which involves the following:

- 1- To manufacture locally or import, whenever necessary, all implements to increase and improve agricultural production.
- 2- To provide the necessary capital and credit to farmers, for purchasing the implements in question.
- 3- To develop a marketing system that will make a fair remuneration to the labor of the producers.
- 4- To support the growth of the agricultural industry that will most effectively evaluate agricultural production and finally.
- 5- To revise and reorganize the property ownership regime so that small land units can be reunited.

