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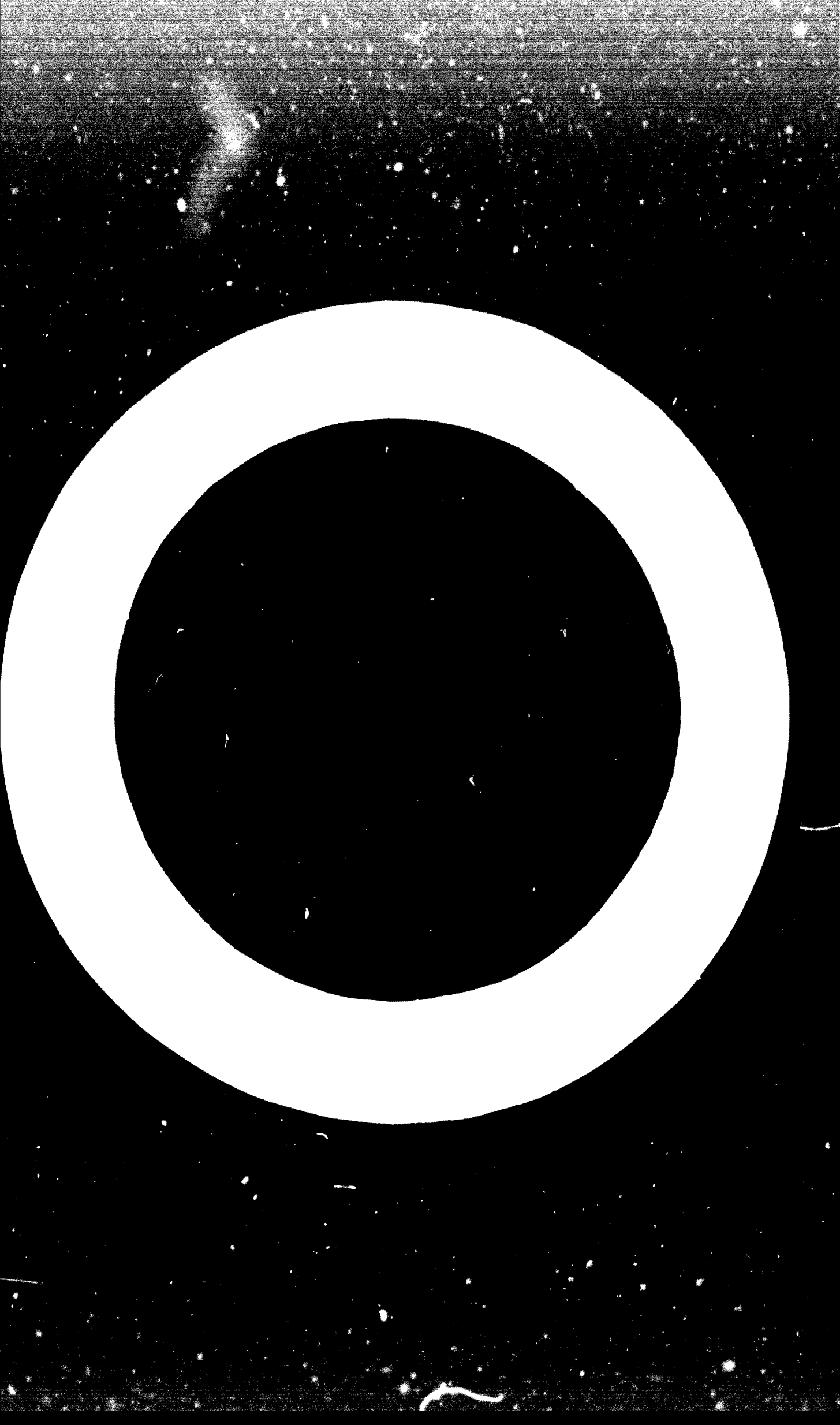
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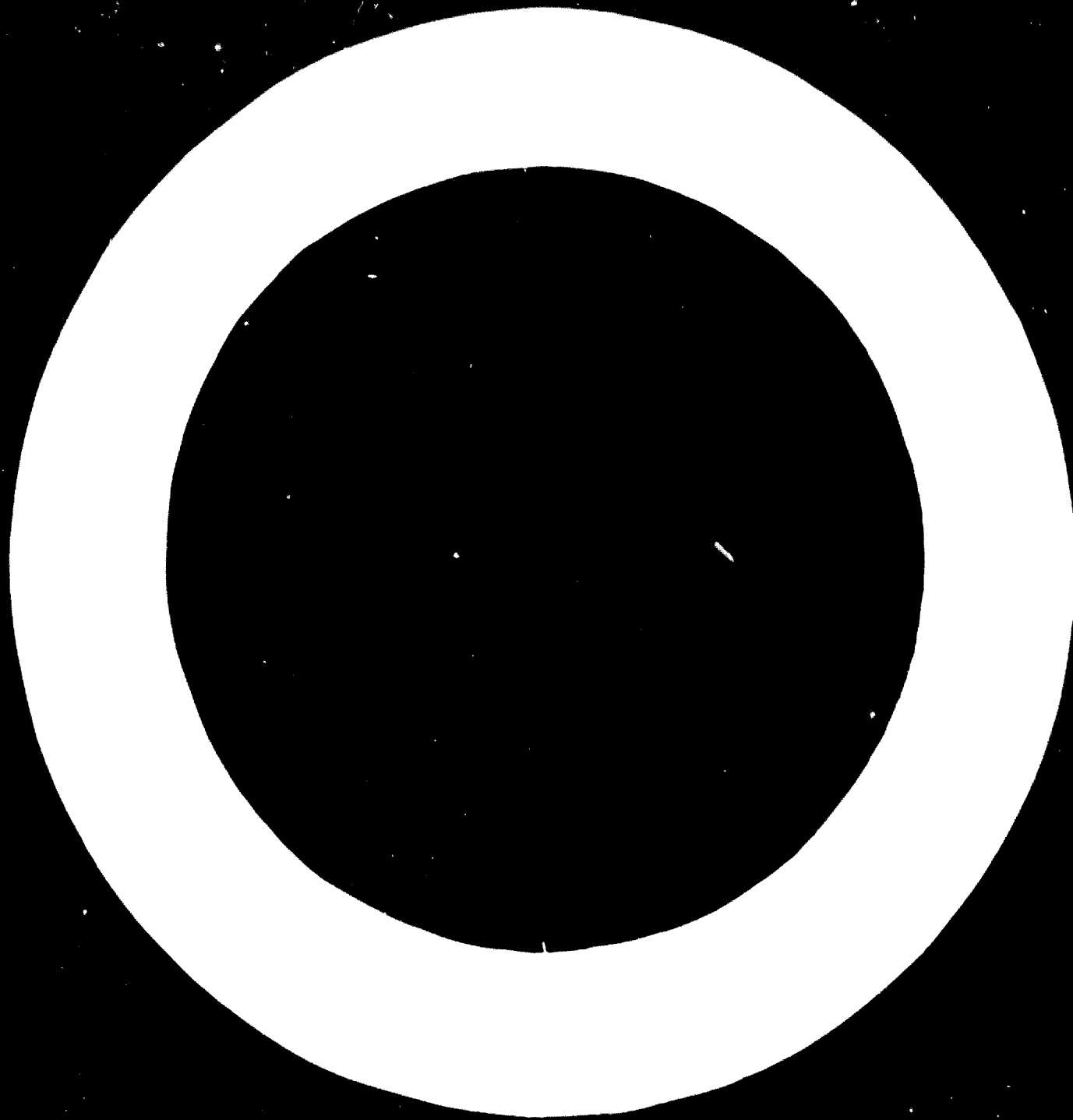
COUNTRY STUDY REPORT

STATUS OF AGRICULTURAL MACHINERY INDUSTRY IN IRAQ ✓

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Section 1.

General Pattern of Agriculture

Geographical land distribution pattern*

Iran has a total area of about 1,650,000 Sq.KM. It lies between 25° to 40° North latitude and 44° to 64° East longitude. Over 50 percent of total surface is mountainous. Iran is predominantly an arid and semi arid country. The rainfall varies from 6 to 200 centimeters. Agricultural lands of Iran extend from 300 up to 1500 meters height above sea level. Majority of these lands are in North (Caspian Sea), North West (Azarbaijan), South (Khuzistan) and central planes.

It may be stated here that the soil structure is hard in Iran, except that of in Caspian, North West and western regions.

Soils of Iran are formed by alluvial and colluvial types, sand dunes, salt and saline, solonchak - in the south of Alborz Mountains, podzolic, brown in Caspian Sea region.

Land distribution by crops and production:

Reflecting the rugged nature of Iran's terrain and climate, only 12% of the total area is under cultivation, and of this only about one-third is cropped each year. The remainder being left fallow.

Generally, agricultural land occupies 7,100,000 hectares out of which 3.1 million hectares is irrigated and 4 million hectares is for dry farming cultivation.

Food crops (including barley and pulses)	520,000 Ha.
Paddy	360,000
Cotton	350,000
Vegetables	210,000
Sugar beet	115,000
Sugar Cane	5,000

It may be mentioned here that 31 million Ha. land is capable of reclamation and development.

Distribution of size of holdings:

The land reform in Iran which was initiated in 1961 by his Imperial Majesty Shahanshah Aryamehr has completely reorganized the rural life and the structure of the country. According to the latest statistics, the number of owner cultivators is reaching the figure of 607,291 persons (head of the family). As a result of the second phase of the land reform law, some 1842218 farm families are shifted from the crop sharing.

Peasant system to the cash rental arrangement for a period of 30 years, but at the same time due to the new amendment of the land reform law, the later system will gradually be transferred to the owner cultivators.

At the same time according to the land reform law, there will be no limit for the area in the ownership of mechanized farms. Therefore, there exist quite a few farms with an area of more than 1,000 Hectars. In case of land cultivated of owners in dry farming, the average area is approximately 10 Hectars, while in the irrigated lands, the average is estimated about 5 Hectars.

To make use of the available facilities in the modern agriculture machinery and to prevent the lands to be divided in small plots.

It has been planned to establish farm sharing cooperatives in Fourth Development Plan. Every farmer will have a share in the cooperative according to his lands. These establishment will be managed by Agricultural Engineers and Technicians.

d. Population and current agricultural practices:

The population of peasants (1966) in Iran is about 16,275,000 which is 61% of total population, and at the same time 49% of total working population. Policy of Fourth Development Plan is to reduce this percentage to 46 in 1972. Because of considerable variation of climate in Iran, there are almost all usual lines of agriculture; live stock, food crops (especially wheat, barley and pulses), paddy, cotton, vegetables, sugar beat, sugar cane, fruits and etc.

Within the past ten years, modern equipments like tractors and other farm machinery were introduced by Iranian farmer, and now old practices of ploughing are being replaced by modern ploughs, discs etc. In other farming methods as planting, plant conservation and harvesting, there is comparatively slow progress. In dry farming system which is adopted mostly for wheat and barley the practices are limited to ploughing, planting and harvesting, but in irrigation system some inter planting practices are applied.

Section 2.

a.

PATTERN OF FARM MECHANIZATION

Farm machinery population:

Different kinds of tractors have been imported into Iran since 1961 which are as follows:-

1961	2500	Units	1966	1000
1962	1800	"	1967	3000
1963	1566	"	1968	3000
1964	2728	"		
1965	3849	"		

(Tillers and chain tractors are included)

From 1957 till 1964 about 1160 units of different types of combines have been imported into Iran.

In Fourth Development Plan, it is planned to sell 1000 units of combines and 20,000 units of tractors within 4 years, so the number of engaged tractors will increase from 17,500 to 24,000 units by the end of the Plan. It should be mentioned that old tractors will also be replaced by new ones.

Now the power used in farming is 45 Horse Power-65 Horse Power Rumanian universal tractors, power tillers are used in Paddy cultivation.

b.

Mechanization Pattern and Equipment used

In recent years many big mechanized farms have been established in which all agricultural practices will be applied with mechanical equipments, some of the mechanized farms are acro-industrial incorporation of Rasht with a cultivated land of more than 10,000 Hectars, Khuzistan Power and Water Authority, Dashte-Gorgan Development area, Dashte Ghazwin, Varamin and Garmsar, Dasht Moghan, Jiroft area, Sorakhs and etc.

Most of this projects combine with live stock, and is planned to make full use of implements. Generally, now most of agricultural implements are used in farming. The table below shows a summary of the agricultural implements, generally used.

Implement	Specifications
Tractors	Power tillers (5-7 HP.), 45-65 tractors, crawler type.
Moldboard Plow	3 bottom mounted - 5 bottom trailed 15-20 Cm. depth.
Disc Plows	3 bottom mounted 45-65 Cm. diameter

(Cont.)

Implement	Specifications
Disc Harrow	Which is used both for land preparation and wheat and barley threshing, 28-32-36 number of blade with diameter above 50 Cm.
Farm Trailer	3 - 5 tons capacity
Cotton Planter	One row
Sprayer	Simple cylindrical knapsack - hand operated.
Drills	For dry farming as a broad casting
Thresher and seed cleaner	For rice and other cereals

c. Production of Farm Machinery¹

At present there is no manufacturing facility for farm machinery as such in Iran, all the needs are met from imports. In some small workshops in Tehran and cities of Iran a few simple farm implements such as disc harrow, wooden planer, farm trailer, simple sprayer are being manufactured.

Most of the workshops only do the assembling work.

d. Popularity in Design and Present Demand

A. Tractors: Three major groups of tractors are required:

1. Power tillers for paddy cultivation with their attached implements for north region of Iran.
2. Medium horsepower tractors 45-65. All purpose tractors equipped with hydraulic system, power take off, pulley, comparatively high efficiency in arid and semi-arid regions of Iran.
3. High grade horse-power tractors, type and crawler type in reclamation lines.

B. Ploughs, 15-25 Cm. depth, Mold board plows and disc plows, good suction in sticky lands.

C. Drills and planters for both purposes; rowcrops and broad casting.

- D. Disc harrows, with diameter above 500 mm., and 28-32-36 numbers of disc blades.
- E. Crusher rollers.
- F. Sprayer and duster: both manpower and tractor powered types.
- G. Combines, all purposes.

e. Future demand (1975-1980) and trend in design from 1970, Machine Building Plant in Arak will produce 10,000 tons agricultural implements annually, as bellow:-

1. Integral mounted three-bottom plough	3000	Pcs.
2. Drawn-type 3 bottom plough	1000	"
3. Integral-mounted disc-type tandem harrow	4000	"
4. Heavy-duty drawn-type disc harrow	500	"
5. Integral mounted grain and grass drill	1000	"
6. Semi-integral cotton planter	1000	"
7. Integral-mounted seed drill cultivator for sugar beet	1000	"
8. Integral-mounted sugar beet lifter	1000	"
9. Integral-mounted ditcher	1000	"
10. Drawn-type leveler	500	"
and Tractors (manufactured in Tabriz Tractor Plant)	5000	"

Because of fast growth of heavy industries and the more usage of rural manpower, it is imperative that Iran will go toward full mechanization. Looking toward the conditions prevailant all modern agricultural implements are needed, especially chiesle plows which have been found most suitable as plowing implement with soil conserving capability against wind and water erosion.

This has been confirmed by soil conservation studies.

Section 3.

**Manufacturing Industries and Ancilliary
Facilities**

a. Farm Machinery Manufacturing Industries:

At the end of Fourth Development Plan there will be the following Machinery Manufacturing Industries:

Name of Plant	Place	Production	Bulk of production
Machine Building Plant	Arak	Agricultural implements Other industrial products	10,000 tons/year 20,000 " "
Machine Building Plant	Tabriz	Engines, Pumps, Electro-motor, lathe machines	10,000 tons/year
Tractor Building Plant	Tabriz	45 & 65 H.P. tractors	5000 Units
Piroozan (Assembling) is going to establish	Tehran	Power tiller (kubota) and other attached implement	2500 Units

Present assembling and manufacturing factories of farm equipments are mentioned as following:

Name of Factory	Products	Capacity/Year		Mark	Notation
		Full	Present		
Iran Stad	Power tiller 4.5-8 HP.	7000 Units	3000 Units	Mitsubishi	Combined assembling and construction
	Agricultural trailers 750 Kg.	1000 "	1000 "	--	Construction
	Thresher for rice	10,000 "	1200 "	Mitsubishi	Assembling and Construction
Eslami	Disks 24-36 Blades	--	80	--	Assembling and Construction
	Agricultural trailers 6 tons	--	80	--	Assembling and Construction (7)
	Thresher	--	20	--	Assembling and Construction
	Land Plainer	--	30	--	Assembling and Construction
Zamind Co.	Agricultural implemb	--	1200	BM. Volvo	Assembling and Construction
Serkisian Factory	Tea leaf Preparation	--	30	--	Assembling and Construction
Syrus Arjemand	" " "	--	25	--	Assembling and Construction

c. Ancilliary and supporting industries

At present all parent materials are imported; The following plants are starting production of various materials:-

Name of Plant	Capacity/year	Products
1. Iranian Steel Corporation	600,000 tons first stage 1,2 million tons second stage	Ferous supplies
2. Alluminum melting Co.	45,000 tons	Alluminum
3. Navard Iran	150,000 tons approx.	Bar and profile
4. Givar Co.,	40,000 tons	Profile
5. Other factories	21,900 tons	"
6. Other Navard Factories	225,000 tons	Construction ferous supplies

Now number

3 - 4 - 5 - 6 Factories import their primary materials i.e. Iranian Steel Corporation will meet all the necessities of manufacturing plants of Iran

Section 4. Policy towards Agricultural Machinery Industry

a. Incentives by the Government:

During the plan period (68-73) Iran plans to be self-sufficient in wheat and sugar, and will substantially reduce reliance upon imported vegetable, oils and will expand exports of cotton, vegetable and fruits and nuts, overall the plan on both lines, agriculture and industry expects oo:

1. Increase agricultural productivity through the introduction of modern farm equipments.
2. Raise rural employment by diversifying occupations, introducing cottage industries, and expanding other economic activities.
3. Iran plans after application of product to be self-sufficient from the point of view of industries, producing the necessities in the country to prevent imports of consumer good. Iran plans 15% of industrial growth within Fourth Development Plan.

Now, the main and principle industry i.e. The Iranian Steel Corporation is going to start primarily with a capacity about 600,000 tons, and at second stage 1,2 million tons annually.

At the same time, Alluminum Industry established in Arak will have a bulk production about 45,000 tons per year.

b. Research, design and development and testing institutions:

1. Farming Engineering Department of Agricultural Ministry has the responsibility to test and recommend the best suitable implements for Iranian conditions. It has a centre of Agricultural Machinery Instruction at Karage.
DUTIES:- Testing, Recommendation, Instruction.
2. Agriculture Machinery and Soil Conservation Training Center of CENTO,
DUTIES:- Instruction.
3. Agricultural Faculty of Karadj Mechanic and Farm Machinery Department, University of Tehran.
DUTIES:- Instruction, Recommendation for Design.
4. Agricultural Faculty of Pahlavi University, Shiraz Farm Machinery Department.
DUTIES:- Instruction, Recommendation.
5. Agricultural Machinery Development Bongah - Tehran acts as a Mechandise Agent.
6. Agricultural Machinery Institute of Technology, Rasht I
DUTIES:- Instruction.
7. Agricultural Training Centers, of Agricultural Ministry,
DUTIES:- Instruction.

c. Need for the future:

Establishing a centre of Technical Institute for designing, testing and useful researches on the line of farm machinery.





14 . 8 . 72