



**TOGETHER**  
*for a sustainable future*

## OCCASION

This publication has been made available to the public on the occasion of the 50<sup>th</sup> 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 [publications@unido.org](mailto:publications@unido.org) for further information concerning UNIDO publications.

For more information about UNIDO, please visit us at [www.unido.org](http://www.unido.org)



05175



Distr.  
LIMITED

ID/WG.146/64  
22 May 1973

ORIGINAL: ENGLISH

United Nations Industrial Development Organization

Third Interregional Symposium  
on the Iron and Steel Industry  
Brasilia, Brazil, 14 - 21 October 1973

Agenda item 10

THE IRON AND STEEL INDUSTRY IN IRAQ<sup>1/</sup>

by

Abdul Mutalib Majid Al-Jalil  
State Organization of Industrial Design and Construction  
Ministry of Industry  
Iraq

<sup>1/</sup> 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.

id.73-3801

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.

The only steel-making facility at the present time in Iraq is the government-owned works near the village of Iskandariyah. There are six 1.5 ton capacity electric-arc furnaces in operation at the plant, and the steel is used in the steel foundry linked with the melting shop. Castings are made either for other government-owned factories or for agricultural implements manufactured in the steel plant. Apart from one or two small private enterprises making iron castings, there are no other iron and steel manufacturing facilities in Iraq.

The Ministry of Industry has for many years been studying the possibility of establishing an integrated iron and steel complex aimed at producing structural and constructional products. This project originates from 1954, when a suggestion was put to the industrial bank for the use of local steel scrap for the manufacture of steel billets and the import of a complementary amount of billets in order that 30,000 tons of reinforcing rods and bars could be made annually. Many reports were submitted, many consultants were employed, and many years passed but no final decision to go ahead was taken.

In the course of time, the local steel market grew and demands for steel for building increased.

To resolve the dilemma and to help the Ministry in taking the decision either to drop the project or to go ahead with it, a group of three experts were appointed by UNIDO to work on the project, together with personnel from the Ministry assigned to the project. They reviewed all the previous reports, studied the situation independently, carried out market studies, and submitted a report to the Ministry, recommending the establishment of a semi-integrated steel plant based on local scrap and imported billets. A small melting shop with a single 35 ton arc furnace was proposed with a combined rolling mill for the production of wire rod, wire, bars, angles, channels, strip, and I-beams. Alternative capacities of 150,000 and 400,000 tons a year were proposed for the rolling mill.

The market survey on which this proposal was based was carried out in about five months, and a projection of future steel demand was made. From the information available from publications about imports and from discussion from various state organizations, an estimate was made of the requirements for steel products over the next five years.

Imports of bars, rods, wire rod, structurals, and other steel products fluctuated from year to year, but the trend was towards higher imports. The fluctuations were attributable to the fact that steel consumers tend to order large quantities on individual orders, some of which would cover more than a single year's operations. Also, when a public organization was executing large projects, steel imports for the relevant years would rise, to drop back to normal the following year. Nevertheless, the trend was towards increased imports.

It was also found that the import of steel is generally influenced by events in the country or in the Middle East generally. The 1956 Suez Canal crisis and the change in the Iraq Government in 1958 both led to sudden drops in steel imports, although in both cases the import figure returned to normal the following year.

Since 1970, the importing of steel has been in the hands of a state organization responsible for the importing of all types of building materials, and from that date data on iron and steel imports have been readily obtainable. The import figures provided by this organization show that imports during 1971 and 1972 were lower than in the preceding two years. It would appear that the reason for this decrease is the comparative inexperience of the staff of the organization. However, demand is expected to increase because the GNP is growing rapidly, and iron and steel consumption is known to increase more rapidly than GNP in the developing countries.

In 1971, imports of bars, rods, and structural steel sections were approximately 200,000 tons. This figure is expected to double within five years, and a forecast for all iron and steel products of 500,000 tons is not improbable. A figure of 400,000-500,000 tons of steel products a year is a reasonable capacity for starting up an industry, bearing in mind that future expansion to double this figure would soon be necessary.

So far as raw materials are concerned, Iraq lacks indigenous iron ores in commercial quantities. Geological investigations in selected areas have revealed some non-commercial ore bodies, two of which were located about ten years ago. Geological prospecting and systematic surveying proved that these ores cannot be exploited economically. Further geological survey work and air surveys are at present in progress.

However, lack of iron ore should not deter the establishment of an iron and steel industry in Iraq, since a number of developed countries are importing not only iron ore but also coke. Iraq has immense reserves of petroleum and, apart from a small amount utilized for power generation, the natural gas is being wasted at the present time.

Natural gas is being used as the reductant for iron ore in Mexico. Knowledge of this plant reached Iraq in 1950. In 1964 those responsible for the iron and steel project proposed that consideration be given to the implementation of a project based on natural gas. Consultants from several countries were employed, but there were delays in reaching a final decision. Financial problems forced the ministry of industry to shelve the proposal for a number of years. It was finally brought forward again in 1970 and serious consideration has been given to it. Plans were drawn up dividing this into two separate projects :

- a semi-integrated steel plant
- a sponge-iron plant.

The former was designed to include a small melting shop with a capacity of 50,000 tons of steel billets a year, a continuous casting machine, and a rolling mill with a capacity of 400,000 tons of rolled products a year.

The second project was planned to be linked with the first and to be completed in time for the steel plant to be fed with pellets, thus ensuring continuous operation. The capacity of the sponge-iron plant was designed to be 300,000-400,000 tons a year, which required a corresponding increase in the size of the melting shop.

The two projects were given serious consideration by the State Planning Board, which in due course instructed the Ministry of Industry to prepare a tender document for the first project and also to prepare a feasibility study for the sponge-iron plant. Through the State Organization for Industrial Design and Construction, the Ministry put the steel plant out to international tender, and also set up a committee to prepare the feasibility study for the sponge-iron plant. Tenders for the steel plant are at present being analysed, whilst the feasibility study will shortly be submitted to the State Planning Board. It is hoped that the contract for the first project will be signed before the end of 1973.

Many sites were proposed; the Ministry selected as the most suitable a site in the south of Iraq near a sea channel that extends from the Gulf, known as Khor Al-Zubair. The site is very close to a railway line that leads to Baghdad and thence as far as Europe. Good highways and a high-voltage transmission line are near at hand. The site is considered to be suitable to accommodate the plant and its future extensions.

The main problem is the shortage of experienced personnel in this sector of industry, and the Ministry has sought assistance from UNIDO and consultants in this respect.

Experts on civil engineering are available in Iraq and so this aspect of building the plant does not present any problems. Nevertheless, the Ministry has decided to execute the iron and steel plant project on a turnkey basis, with the intention of completing the project as expeditiously as possible.





**30.8.74**