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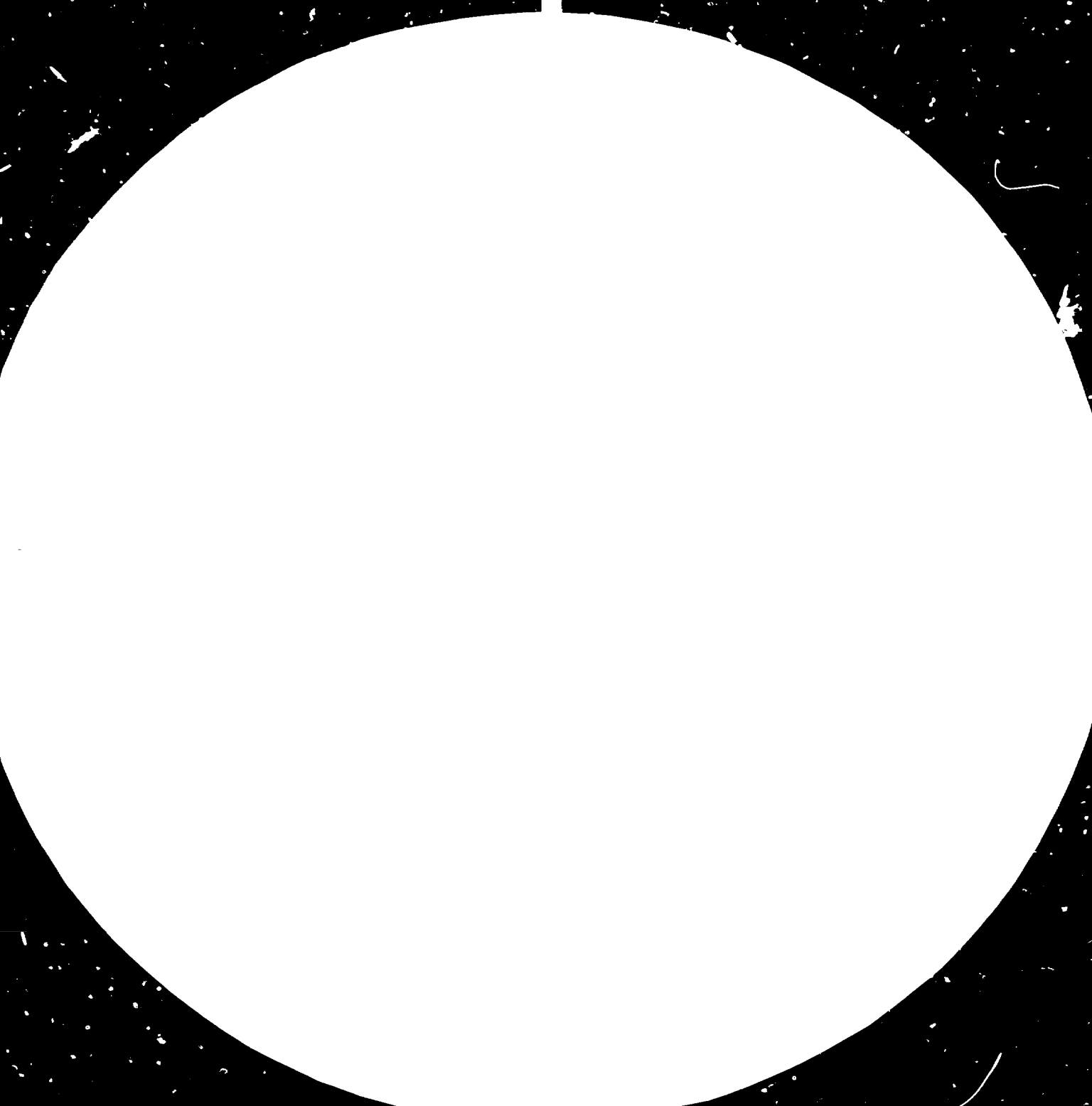
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UNIDO'S ASSISTANCE TO THE METALS ADVISORY SERVICE

PAKISTAN *

by

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At the time of its independence 34 years ago, Pakistan had not got any industry worth the name. Up to mid fiftieth, the country's economic situation was rather sluggish. Industry started taking some shape early sixtieth when a number of privates went into business being motivated by market requirements and Government support as well as when the Government established Pakistan Industrial Development Corporation which laid the foundations for most of public sector units. Despite the fact that the overall economy was trade oriented, the lack of adequate know-how, the substandard qualities of products, a big number of industrial units managed to make substantial profits and were gradually picking up. This development, however, faced marked set back in the early seventieth when nationalization was imposed on some of the industrial units. Beside the obvious discouragement effect this act got on the private sector, it created tension and unhealthy atmosphere with the public sector. This picture is being now rectified, more emphasis and incentives are being provided to encourage the private sector to improve and expand its performance.

In the fields of metallurgical activities, there were only two small electric arc furnaces existing in Pakistan at the time of its independence. Today, the picture is markedly different. Over two hundred electric arc, induction and cupola furnaces are in operation both in the private and public sector. The installed iron and steel melting capacity reached over 800,000 tons including the integrated steel mill at Karachi which once in full operation will add 1.1 million tons of steel. Two of the steel melters recently introduced continuous casting technique. The installed rolling mills got higher capacities than melting. Part of their charge is in the form of ship broken scrap.

The steel production figures seem rather low in a country of the size of Pakistan. In fact tremendous efforts were made in order to reach the present production figures in such a short lead time. Forecasts indicate that steel demand in Pakistan will reach 2.5 million tons in the year 1990, 4.7 million in the year 2000 and 8.7 million in the year 2010. By then the steel consumption per capita figure will reach 49 Kg/person from today's figure of 17 Kg/person.

Though metal industry was developing in terms of production figures, it fell far short of meeting most of the essential demands, of the required qualities and reflected excessive production cost figures.

Appreciating the efforts made by industrialists to satisfy part of their country's demands without being supported by the technical know-hows or experience and without having enough trained personnel, the Government felt the necessity to take measures to help in rectifying the situation, assist the metallurgical units to improve their performance, decrease their cost, increase their productivity and to improve the quality of their products. A request was hence made to have UNDP/UNIDO assistance in establishing Metals Advisory Service in Lahore in Pakistan.

The request was originally cautiously designed as the role of the project was not very clear at that time. Project first phase started in April 1975 for 32.7 months at a total cost of \$ 516,793. The project was run by one UNIDO metallurgical consultant acting also as Chief Technical Adviser and an International Subcontractor. The project was attached to one of the organizations under the Federal Ministry of Industries where it was temporarily housed.

The long term objectives set for the project included promoting the development of metallurgical talents and skills in the country through training and through the transfer of technology and experience in the metallurgical field, advise and assist the Government in establishment of new metallurgical industries and in

upgrading of the existing plants in order to achieve maximum productivity and best techno economic benefits, promoting the dissemination of technical data and flow of information in the metallurgical and mineral fields. In doing so, to provide information on the latest technological innovations and process to the industrial units in the country and creating favourable conditions for establishment of institutional facilities where applied research and development work on metallurgical subjects and problems could be carried out

Before starting actual implementation, it was essential to identify industry's actual technical requirements and at the same time to establish contacts and gradually gain the confidence of industrialists. This required lot of patience and repeated contacts. The only help the project was able to provide at that stage was high level technical advises supported by the tests conducted at project subcontractors home base.

It became obvious that the main metallurgical activities in Pakistan are in the fields of cast iron and steel foundry, in rolling and metal working to produce cuttlery and medical implements. The only integrated steel mill was in the course of construction. Accordingly, the project was designed with more emphasis on foundry and related activities as well as on metal rolling, testing and control facilities. Besides, the project initiated a number of technical committees to consider major metallurgical activities required such as utilization of indigenous iron ores, gas based cupolas, DRI, foundry sands and binders, etc. These committees - members of which were senior officials in related organizations like PCSIR, Universities, Pakistan Steel, Railway, Mineral Corporation and MAS - succeeded in compiling comprehensive data related to these subjects, in throwing more light on the issues and in identifying the existing available facilities.

Recruitment and training of project personnel was and still is the biggest concern. At present 26 technical personnel are serving with the project of which there are 16 engineers and supervisors. On job training was conducted in project's laboratories, on industrial shop floors and in subcontractor's home bases in Europe. Gradually, the project started to gain name and to receive requests for technical assistance and advises.

Also, the project established a documentation division, subscribed in a number of technical journals and publications and prepared classified abstracts of the technical articles. It is now quarterly issuing two publications: MAS Newsletter and MAS Bulletin of Abstracts which are distributed among industrialists and interested parties on subscription basis. The Newsletter carries information regarding project important events, what is new in the metallurgical world, news of the technical jobs handled by project and advises regarding the solution of common technical problems. The Bulletin of Abstracts gives short classified abstracts of the technical articles appearing in the international specialized journals the project is getting. Photocopies of full articles are provided on request.

The Government realizing the important role the project was undertaking and becoming more convinced of its need as a permanent institution requested UNDP/UNIDO to consider a second phase for the project. This started in 1980 for 36 months at a total cost of \$ 1,069,663. Two more international subcontractors were associated and a total of 41.75 m/m experts field service was provided beside backstopping support including overseas training. The Government provided three acres of land as independant site for the project and constructed four buildings for the foundry and metal working, testing services, material engineering, documentation and administration. UNIDO supplied project with equipment worth \$ 666,165 which enabled setting of six well equipped laboratories for sand testing, instrumental

chemical analysis, thermal analysis, metallography and metallographic analysis, non-destructive testing including ultrasonic and x-ray units and mechanical testing.

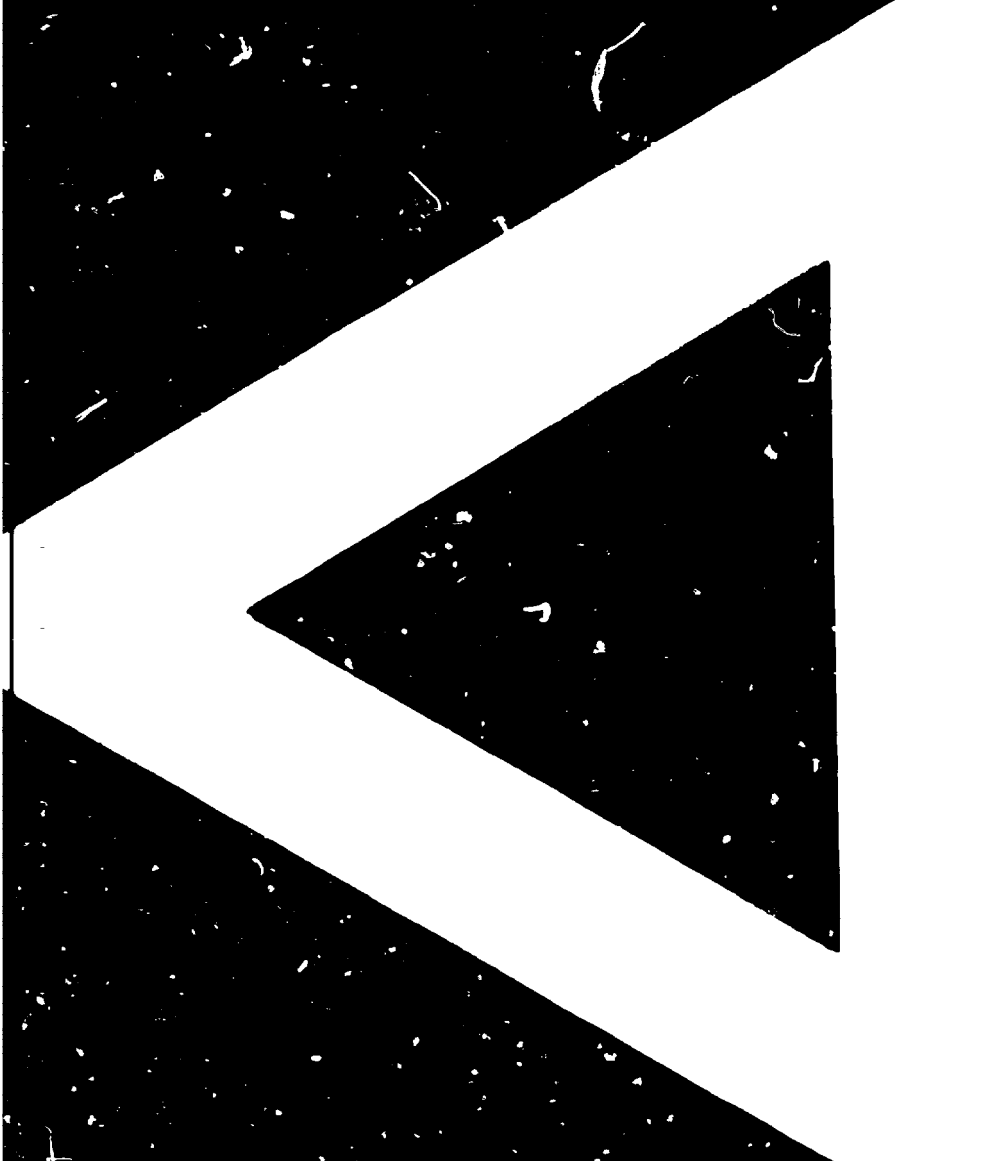
These facilities are meant to support the industrial operational performance since nearly all the units in the private sector lack testing and control facilities. This is because of the size of their operations, the expensive nature of processing, running and maintaining these equipment.

For new products demonstrations purposes, project got too a 200 Kg. solid state high frequency induction furnace as well as an experimental rolling mill.

The project completed over 500 technical jobs requested from over 75 industrial enterprises and organizations, paid over 300 industrial visits to advise local metallurgical industries, and conducted a number of specialized technical seminars which were well attended.

The project assisted in practically introducing a number of various techniques which were not applicable, these include semi-killed steel, spring steel, SG iron, I beams, production of steel rolls and chilled cast iron rolls.

UNIDO met its commitments towards the project exactly on time as originally designed, was a full partner in bringing to being a new metallurgical centre in another developing country, demonstrated its usefulness and role in assisting the adequate performance of the fast developing metallurgical industries in Pakistan. MAS is in a position to step forward and give hand to other developing countries which may need its support particularly in the fields of foundry. At the same time, it should be admitted that MAS is still far from reaching or meeting its long term objectives. Efforts are being maintained to keep the project running at its present level of performance and to develop further along the preset lines and targets. Future UN assistance may be called, once needed, to strengthen areas where the project fails to provide the services required by its own staff. It is very much welcomed to have this UNIDO workshop at this time and to associate MAS in some of the regional activities.



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