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D00475

**ID**

Distribution  
LIMITED

17,009/103  
20 October 1969

United Nations Industrial Development Organization

ORIGINAL: ENGLISH

Interregional Petrochemical Symposium on the  
Development of the Petrochemical Industries in  
Developing Countries

PET.SYM.1. A/46

Raku, USSR, 27<sup>1</sup> - 31 October 1969

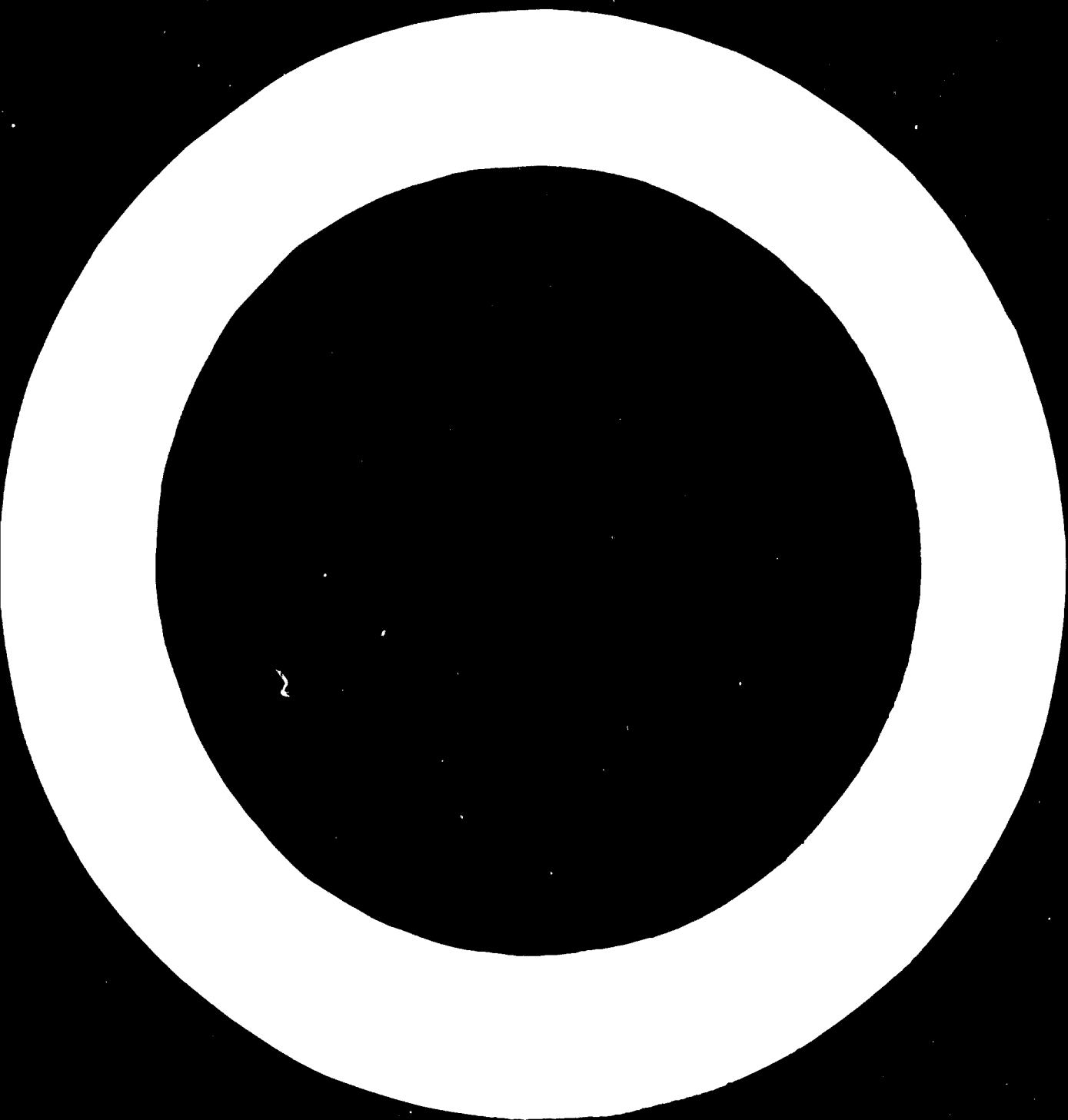
DEVELOPMENT OF THE PETROCHEMICAL INDUSTRY

IN THE PHILIPPINES<sup>1/</sup>

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The Philippines for the past decade has been, in one way or the other, engaged, in both production and consumption of petrochemical products. The trend, however, has been either simple extrusion and compounding as in the case of plastics, or outright manufacturing as in the case of ammonia. The industry is mostly, if not totally, dependent on imported basic raw materials, like naphtha, or intermediate petrochemical raw materials for the plastic, textile, detergent and other related industries.

Late in 1964, the Government had a first look at the feasibility of establishing a petrochemical complex. However, it temporarily shelved the project after assessing other areas needed for economic growth, namely, infrastructure, rice programme, etc. which turned out to have higher priority ratings. In addition, the apparently limited internal market could not support the project during the programmed period.

In October 1967, the Philippines was represented in the First Action Group meeting on petrochemical industries convened by ECAFE (Economic Commission for Asia and the Far East) for the purpose of discussing the possibilities of establishing specific petrochemical projects dealing with joint venture or market-sharing arrangements. In view of the sophistication and high capital intensity of the industry, it was felt that the countries of the ECAFE region should avoid the establishment of small non-economic units; they should instead pool resources to build large economic-size units. Before actual negotiations could take place among countries concerned to establish projects on a co-operative basis, the Action Group recommended that a survey mission be organized by the Asian Industrial Development Council for the purpose of ascertaining the requirements of the region and the possible areas of co-operation.

The Philippines was again represented in the meeting of senior officials in the petrochemical industry held in Bangkok, Thailand, 24 - 25 July 1969 under the auspices of the ECAFE. This meeting was convened to evaluate and finalize the findings of the fact-finding team on petrochemicals.

Based on a study of local demand, availability of raw materials and current plans for development of the different countries of the region, the fact-finding team submitted their recommendations.

One of the major proposals of the team was the setting up of a Petrochemical Complex I consisting of 65,000 tons/year ethylene, 50,000 tons/year polyethylene, 20,000 tons/year PVC resin and 10,000 tons/year dodecylbenzene (DDB)

to be located either in Singapore or the Philippines, with Singapore, Malaysia, Indonesia and the Philippines as participating countries.

Another Petrochemical Complex II with the same products and capacity is to be located in Thailand, with Thailand and Republic of Vietnam as participating countries. The Philippines' participation in this project will only be for JF.

The Philippine Government is actively looking into the possibilities of setting up the petrochemical complex in the Philippines for the following reasons:

1. Local demand

(a) Polyethylene, although currently supplied through importation has exhibited an annual rate of growth of 45 per cent. Using a conservative growth rate of only 30 per cent, the projected demand by 1975 would be within the vicinity of 100,000 metric tons.

(b) PVC, although being produced locally via the carbide route, is also in the upswing as shown by a 17 per cent growth rate. By 1972, even with the 10,000 metric tons/year capacity of a local plant, the Philippines alone would still be needing about 20,000 - 30,000 metric tons of PVC resin.

(c) Local demand for dodecylbenzene is characterized by our detergent consumption which is growing at an average rate of 50 per cent. It is envisaged that by 1972, the local demand for detergents would reach 75,000 metric tons.

(d) Added to this, the Philippine demand forecast by 1972 for synthetic rubber (SSR) is 13,000 metric tons.

2. Labour and utilities

The cost of both labour and utilities is one of the cheapest in the region. The presence of diverse industrial activities and technical schools in our country accounts for the abundance of varied skills needed to support additional industrial endeavors. Electrical power is available at \$3 per megawatt-hour, fuel oil at \$20 per metric ton, process and cooling water at \$0.08 and \$0.0125 per cubic meter respectively, and labour at \$0.1875 per hour.

3. Raw materials

Naphtha has been tentatively earmarked as the major raw materials for this project.

With the development of heavy industries, such as the nickel project and the rapid increase in the construction of thermal power-generating units, there would definitely be a trend toward the heavier end of the crude oil resulting in a surplus of naphtha from the ever-expanding four (4) refineries in the Philippines. If the expected surplus naphtha were to be exported, the resulting netback to the Philippines would be lower than world prices.

With the increasing demand in naphtha by our fertilizer industry plus that which would be required by this petrochemical project, we believe that in the near future, naphtha could be made available locally at better prices.

Conclusion

In view of the market potential for petrochemical products in the Philippines, the Government through the Board of Investments has established a Petrochemical Committee, composed of members from the public as well as the private sector. This committee is directed to study and make recommendations on the development of the petrochemical industry within the framework of the Investment Incentives Act, the Foreign Trade Zone and the industrial estate concepts. Initial regional co-operation is envisaged to improve the viability of the project and this petrochemical development will be the Government's machinery for co-ordination with all concerned agencies.

As we have already mentioned, if we can use this situation to our advantage, in other words, we can learn from the experiences of other countries and avoid their mistakes.

Our Government should be aware of the danger in the development of a petrochemical industry in order to avoid duplication, proliferation of small, uneconomical satellite plants, and atom-fragmented locations.

We consider ourselves fortunate that our Government and the private sector have been able to recognize at this early stage the need for a systematic and coordinated development of the petrochemical industry and the crucial role that the Government of a developing country must play in order to avoid the expensive and sometimes insurmountable errors that other countries have suffered.

With assistance, it has been requested, in the correlation of techno-economic data and the formulation of a viable complex for the production of petrochemicals based on naphtha.





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