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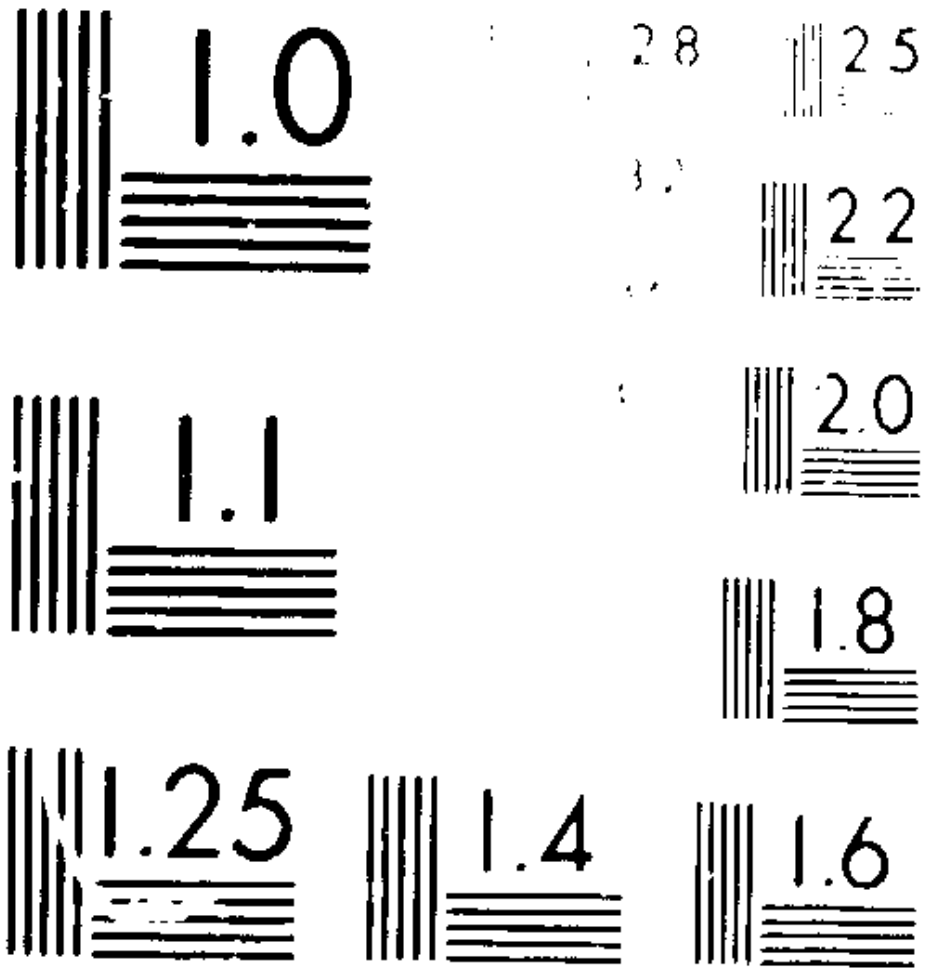
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ACQUISITION OF FOREIGN TECHNOLOGY IN EGYPT: A NEW APPROACH *

by

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Introduction

Egypt's population is estimated to have been 42 million at mid-1981 and growing at the rate of 2.8 per cent annually. To provide for the needs of its growing population, Egypt has devised an economic growth strategy which can produce yearly gross rates of 8 percent. In the Egyptian context such a high growth rate can come only from industrialization aimed at import substitution and production for export markets; and creation of a type of infrastructure which stimulates the introduction of technology that increases productivity. A development strategy based in large part on technological modernization will exploit the several potential development advantages which are available for Egypt's economic growth in human resources, favorable market position, and a large, relatively well-advanced resource and industrial base. These potentials for development will not be fully realized unless large investments are made, foreign technologies are imported and adapted, the rate of technological innovation is increased, and structural changes are made in economic planning, the system for deciding resource allocation and the management of public enterprises.

In Egypt, as in some other developing countries, the use of technology for economic and social development is not in fact constrained by an absence of appropriate scientific and technological knowledge, but rather the critical limiting factors are those associated with organizational complexities, managerial and technical competence, the system of incentives and regulations governing production decisions in enterprises and the selection and adaptation of available knowledge. Thus, the task of mobilizing Egypt's scientific and technological resources for purposes of development is not one improving scientific quality for building more performance capacity, it is instead a task of providing a means by which scientific and technological resources can consider and interact with the economic, technical, managerial and organizational limitations that determine the rate and extent of technological innovation in agriculture, industry and the service sectors.

Import of Technology

Until recent years Egypt did not pay much attention to the import of technology in its official policies. Because of the country's high levels of education and degree of industrialization there has been for many years an appreciation of the role of modern technology and hence of the need to keep abreast of world developments. This realization has led to an "open" approach to foreign technology which has not yet crystallized in a technology policy, with an attempt to screen systematically technology coming into the country. Attitudes have

recently changed, partly because of a growing recognition that the country possesses a scientific and technological potential of its own and hence that is not always necessary to import technology; but also because Egypt will continue to seek the best technology available in relation to its own needs from foreign suppliers. The changed political situation after October 1973 laid the ground work for a new "open door" policy. This policy reflects a great effort to accelerate economic development by modernization and through changing Egypt's largely publicly owned and centrally controlled economy to a more market-oriented one, with greater decentralization of the public sector, more scope for the private sector and a larger role for foreign investment. The "open door" policy heralded by Law 43 of 1974 emphasises the need for additional production capacity in Egypt and seeks the use of more modern technologies (management systems as well as equipment) to realize that production. The promotion of foreign investment has been reinforced by a decentralization of administrative powers and in particular through the creation of the General Authority and Free Zones (GAFI). That Authority is the only body which has centralized approval power for foreign investment projects. Technology is one of the main factors taken into account in considering applications for investment projects, and the prospect of obtaining technology new to Egypt is a reason for giving approval. The application form which has to be completed by all potential investors is detailed, comprehensive and clear. The technology factor, including costs of importing technology, is assessed in a number of different ways, and specifically:

- a description is required of the technology to be transferred and the training to be given in the use of the technology;
- the machinery and equipment to be imported must be described fully and their origin indicated;
- under the heading "workers to be employed" there are three main categories: technical/administrative, skilled and unskilled and the respective numbers of foreign and local staff in each category have to be stated;
- in the table which recapitulates the balance of payment effects, particulars must be entered concerning expatriate salaries, interest payments, loan repayments, royalties, management fees, other payments in foreign currencies, profits transferred abroad and capital repatriated.

Under the "open door" policy and the current hard push for industrialization, considerable modern technology is coming into Egypt. We, at the Investment Authority, have a clear understanding of the need to import foreign technology on a discriminating basis and, therefore, of the importance of a technology policy. It is also recognized that such policy has still to be worked out fully, as well as the modalities for implementing it. The Authority relies - in fact - on other governmental agencies for advice as to whether the technology to be acquired as a result of a particular investment proposal is worth while, and whether the terms on which it is to be acquired are justified. In practice, industrial projects

are referred to the General Organization for Industrialization (GOFI) for advice on a case by case bases. The question whether and how far local technology is available, or is capable of being adapted, is not asked by the Authority on a regular and systematic basis. The same, in general, also true of GOFI in its capacity as technical consultant to the Authority in industrial projects. This reflects a lack of day-to-day contact between the Authority and the national science and technology system. For large scale projects, ad hoc committees are normally established to assess such projects before they are submitted for decision to the Board of the Authority. In such cases a comprehensive view from the competent technological authorities is normally obtained.

The net impact of Law 43 has been to set in motion a series of changes. First there has been a sharp increase in the number of arrangements and in particular of their packaging with foreign investment. Due to the emphasis an augmenting production capacity, much of the technology has been embodied in new machinery and there have been few separate contractual agreements to cover technology per se. Second, many public firms have been driven towards joint ventures as they seek to obtain cash and technology to survive in wider markets. Historically, the public sector as a whole employed about 60% of the industrial work force, has provided three-quarters of the country's industrial output, and about 90% of industrial investment.

The operation of public sector firms has always been strongly controlled with regard to the pricing of inputs and outputs, such that their possibilities to generate internal operating surpluses have been small.

Techrological Problems: A User's Point of View

In a recent attempt to assess the present status of technological capabilities and to identify the gaps and shortcomings a group of leading public and private sector investors, managers of leading industrial companies and senior government officials (including the author) held four meetings during the period July-October 1981 in the Development Research and Technological Planning Centre of Cairo University at the invitation of the President of the University. Some observations and reflections from the discussions are given in the following paragraphs.

- The private investors, represented by senior officers of leading investment banks, pointed out to the need of supporting the tasks of the investor by establishing and strengthening the available machinery and sources of information about alternative technologies. The investor in Egypt, meets with difficulties in trying to evaluate the offers given to him by prospective partners and suppliers of technology.

- The public sector companies, These companies play an important role in technology acquisition, adoption and application

from local and external sources. Some of them have large institutions of technology and training. These companies can do more in these directions, whether by themselves or in cooperation with the national bodies of industrial planning, technology and research and development institutes and universities.

Bargaining power in technology negotiations is becoming in itself a specialized technique in which governments or individual entrepreneurs face transnationals and international suppliers of technology. Technology bargaining is usually lost in discussing financial and engineering clauses. The local negotiator is in a still weaker position if he is seeking loans and may feel helpless in front of the external parties. He may not find easy support from local research and technology institutes, and he cannot - in fact - benefit from competition between different sources. The cost of technology may prove finally to be much higher, or even exorbitant. Development is still over-dependent on imported high cost and restrictive technology, and finds little support from local technology institutions.

Technology policy is closely linked with economic, financial, labour, wages, exports, imports, investment, education and other policies. National development requires the infusion and integration of appropriate and selected technological innovations in productive enterprises all over the wide range of sectors producing goods and services. The proper technology policy would be that which favours the selection and introduction of appropriate techniques in the

economic system. Appropriateness has then to be decided upon, not only at the level of the parties concerned (commercial feasibility), but also within a wider frame of national objectives(1).

Strenthening Egypt's Access to Foreign Technology

First of all, I think it is needless to say that no one country, no matter how technologically advanced, can maximize the effectiveness of its economy without constantly acquiring new technology from abroad as well as developing as much as it can at home. These facts has created a lively worldwide market in technology in which it is important for the nation to participate. Identifying, choosing among alternatives and then obtaining access to either public or privately held technology is itself a process requiring talent, know-how and investment. Egypt is now in the process of designing its national technology policy. Despite the fact that Egypt has a sizeable science and technology establishment (about 260 R&D institutions and units) and manpower (over 22,500 holders of M.Sc. and Ph.D degrees) the contribution of the national resource to the overall socio-economic development of the country has left much to be desired. The Academy of Scientific Research and Technology (ASRT) of Egypt is collaborating with the institutions of the key sectors of the national economy in an overall effort to reach a

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(1) I.H. Abdel Rahman, Technology, Business and Public Policies in Egypt, Academy of Scientific Research and Technology, Document: NTP/ Seminar 1/7, October 1981.

generally agreed-upon national science and technology policy framework that would have the best possible assurance for survival over a number of years to come. This is expected to produce effects on the national technology system and hence on the pattern of technological development of the country that are calculated to be self-sustaining and comulative. The purpose of such a policy is to maximise the benefits drawn from imported technology and at the same time, substantially increase the technological output from the indigenous science and technology establishement.

Egypt, at the same time, is now considering the establishment of a national center concerned with technology imports and the possibility of promulgating guidelines in this field. Such guidelines should provide for (i) seeking from as many sources as possible the technology required for a given purpose (ii) systematic evaluation of foreign technology available in relation to alternatives, (iii) unpackaging, to be able to associate local inputs of technology, (iv) elemination of restrictive conditions and (v) assistance to local companies in the negotiation of technology contracts.

It was under these assumptions that a committee, representing the Investment Authority, the General Organization for Industrialization, the Academy of Scientif Research and Technology and the Council of State, has been established since February 1981 to suggest a draft code on technology

regulation in Egypt. We have in mind to design a set of flexible policies that would take into account the conditions under which technology can be acquired in the international market, the different conditions introduced by foreign ownership , the characteristics of the domestic and export market and the improvement of technological capabilities in the country. The code might be regarded as a starting point or continuation of a fresh approach to policy, in which case the legal instrument could serve to create space in which new lines of action could be worked out. The new program concerned with Egypt's access to the best of foreign technology will be on bringing the country's capable, indigenous technical and scientific community into the technology acquisition process as advisers to, rather than regulators of, public or private sector purchasers, thus maximizing the country's potential for wise technology choice and effective bargaining over the terms of transfer.

Annex

TECHNOLOGY TRANSFER AND RESTRICTIVE BUSINESS PRACTICES

(1) Egypt has no special legislation governing transfer of technology.

The use of patents, trademarks, technology or "know-how" in Egypt are authorized through licensing agreements which must be approved by the General Organization for Industrialization (GOFI) under the Ministry of Industry if the agreements involve foreign exchange royalty payments. In line with the Government's policy of encouraging exports, approval of the agreements are easily obtained when the licence is designed to promote foreign sales.

Agreements may cover patents, trademarks, or "know how"singly or in combination. They are generally for five or ten years duration and are automatically renewable from year to year until terminated by either party.

A licensing agreement will be ratified by the Government only if it involves transfer of "complete know-how", including a detailed description of methods, controls and raw materials. Tie-in clauses are permitted by the Government if the size and scope of the investment is large and important enough.

There is no separate legislation which covers licensing fees. The Egyptian partner negotiates terms with his foreign counterpart for lump-sum payments, royalties or managements fees.

The amount of the royalty depends on the terms of the contract depending on whether the licensing agreement includes know-how of the use of a trademark. Normally, royalties range from 2 to 5 percent on an agreed unit price, multiplied by the number of units produced or sold.

(ii) A. Patents

The basic law on patents is the Law on Patents, Designs and Industrial Models (Law No 132 for 1949 as amended by Law 65/1955).

Invention patents are valid for 15 years after application, renewable for another 5 years; and 10 years for chemical processes including foodstuffs, medicines or pharmaceutical compositions. Patents of addition are valid for the unexpired term of main patent.

Substances are not patentable, but the processes leading to their production are.

Public use or publication in Egypt is prejudicial and no novelty examination is needed.

Applications for a patent may be filed by an inventor or by his assignee; or in the case of a foreigner, his agent, to the Patents Directorate on the prescribed form, stating name of inventor or name, address and nationality of applicant; power of attorney in Arabic, signed by applicant and legalized by Egyptian consul; specification and drawings in triplicate, in Arabic, giving detailed

description, method of working and claims, summary of the invention (abridgment of the specification) of about 100 words in Arabic, illustrated by one set of drawings (if any); if applicant is a corporation, a legalized extract from the Commercial Register or copy of certificate of incorporation with Arabic translation. An application must cover only one invention.

The application is published in the Journal of Patents and opposition to the application must be filed within a period of 2 months of publication.

The decision of the Patents Directorate is subject to appeal within 30 days to the Appeal Committee.

The Journal of Patents publishes the approval of a patent application.

Patents and assignment of patents must be recorded and become effective only from the date of their entry in the Patents Register. The recording of a licensing agreement evidencing a patent in the Patents Register allows a licensee to sue in its own name against infringement of the licensor's patent.

Compulsory licensing may be required by the Patents Directorate if the patent is unworked within three years of grant or during any two consecutive years thereafter, or if working does not satisfy needs of country.

The State may expropriate a patent for reasons of public interest or national security.

B. Trademarks

The law governing trademarks is the Trademark Act 1939-56.

Trademarks are valid for 10 years from date of application, renewable indefinitely for similar periods.

Marks lacking distinction, which are merely descriptive or pictures or representation of products; mark contrary to public order or morals; emblems, flags, similar devices, and illegal, misleading or confusing marks, are not registrable.

Applications for trademarks registration are filed with the Trademark Office on a prescribed form, with four copies of mark and power of attorney. Upon acceptance or renewal, application is published in the Trademarks Journal. If rejected, appeal can be made to the Appeal Committee within 30 days. Opposition can be filed within three months. Appeal can be made to the Court of First Instance in 10 days.

The Egyptian Government permits the licensing of trademarks if production is intended for export, otherwise, if the goods are destined for the local market, the Government is less likely to approve royalties for the use of trademarks.

C. Industrial Designs and Models

The pertinent law regarding industrial designs and models is the Law on Patents, Designs and Industrial Models 1949-55.

Industrial designs and models may be registered for an initial period of five years, renewable for two five-year periods.

(iii) Egypt is a member of WIPO since 1975 and is a party to the following international industrial property treaties:

a. Paris Convention for the Protection of Industrial Property (Stockholm Act of 1967), since 1952.

b. Madrid Agreement Concerning the International Registration of Marks, since 1952.

c. Madrid Agreement for the Repression of False or Deceptive Indications of Source of Goods, since 1952.

d. Hague Agreement Concerning the International Deposit of Industrial Designs, since 1952.

e. Strasbourg Agreement Concerning the International Patent Classification, since 1977.

It has also signed the Patent Cooperation Treaty.