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Article — Digitized Version

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Intereconomics

Suggested Citation: Schliephake, Konrad (1975) : Regional development and oil strategy: The case of Algeria, Intereconomics, ISSN 0020-5346, Verlag Weltarchiv, Hamburg, Vol. 10, Iss. 7, pp. 202-206,
http://dx.doi.org/10.1007/BF02928947

Oil Strategies and Development

The authors of the following articles deal with the special problems facing two groups of oil exporting countries and their implications for the domestic and external economic strategy of these countries. A. Alkazaz presents the case for the Arab States which are encountering difficulties in using their large oil revenues in their own countries owing to personal and material shortcomings of their infrastructure, while K. Schliephake shows by the example of Algeria what contribution the oil can make to the regional development of countries with large populations and favourable objective conditions for speedy industrialization.

Regional Development and Oil Strategy: The Case of Algeria

by Dr Konrad Schliephake, Hamburg *

Until the much talked-about "energy crisis" struck the world in the autumn of 1973 – the flare-up of the Palestine conflict was only the spark which set it off – analyses of the national and international oil and energy policies focused on the mechanics of the international markets. There had been only a few case studies [1] in which it had been pointed out that the mineral oil industry in its traditional form

- lacked integration with the other sectors of the economy;
- was by the logic of its system prevented from making a purposive contribution to regional economic and social development; and
- under the prevailing systems and economic principles made only a small contribution to the advancement of the oil producing countries: hence there was a need for integral planning to use the oil in the interests of the producing countries – otherwise a major crisis was bound to occur at some time or other.

A Shift in Control

The oil producing countries have in the meantime gained an increasing measure of control over their raw material and brought about a shift in the centres of economic policy decisions in their favour. As a result of this the political options impinging on the world market through the relatively solid producers' cartel of the OPEC are attaining growing importance as the basis of new national energy and raw material policies on the part of individual producing countries.

What is the basis of these political options and what will be their effects in the future has been examined in field studies for which Algeria served as a representative example. [2]

With the interrelations between population, crude oil output and available infrastructure as the criterion, the oil producing countries may be roughly divided into the following groups: [3]

- Producing countries with a high per-capita income *(Saudi Arabia, Kuwait, Qatar, Abu Dhabi, Libya):* Their financial resources are increasing rapidly, but infrastructural shortcomings of a personal and material nature and lack of a nation-wide market make it difficult to establish industries.
- Producing countries with average per-capita incomes *(Algeria, Iraq, Iran, Venezuela, Ecuador):* They appear to offer the best conditions for quick industrial development. They possess an infrastructure ca-

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[1] Cf. P. Marthelot, La révolution du pétrole dans un pays insuffisamment développé: la Libye (The Oil Revolution in an Underdeveloped Country: Libya), in: Cahiers d'Outre-Mer, Bordeaux, No. 18, 1965, pp. 5–31.

[2] For details see the author's monograph: Erdöl und regionale Entwicklung – Beispiele aus Algerien und Tunesien (Mineral Oil and Regional Development – Examples from Algeria and Tunisia), in: Hamburger Beiträge zur Afrikakunde, Vol. 18, Hamburg 1975; a detailed bibliography on petrol and petrol economics is given in: Oil in Africa – a selected biography, Africa Documentation Service, Vol. 12, Hamburg 1975.

[3] Following: All Oil Countries Want to Set up Industries, in: Petroleum Economist, London, 41/1974, No. 9, pp. 324–326.

pable of sustaining investments and also the requisite capital.

☐ Producing countries with low per-capita incomes *(Indonesia, Nigeria):* Owing to the large size of their populations the high oil revenues of these countries will either give rise to great social disparities and thus to political unrest or, if they are distributed relatively evenly, leave little scope for the accumulation of capital for industrial investments because of excessive demand arrears for consumer goods which are being met chiefly by imports.

The evidence found in Algeria is of general applicability for all oil producing countries in the second group which have populations and infrastructures capable of sustaining industrial investments.

Integration with the Internal Economy

The domestic and external policy aims for the Algerian economy are closely connected with the strategy which has been evolved for the country's raw materials and energy.[4] The principal aim is the economic, social and cultural advancement of the country which is inseparable from industrialization. By industrialization alone can the required social standards be attained without creating an artificial prosperity lacking a productive basis and dependent entirely upon imports.

As early as in 1964 the then President of Algeria demanded that the oil industry should no longer be isolated from the other sections of the national economy and that the latter should be developed on the basis of the utilization of the hydrocarbon deposits (mineral oil and natural gas). A better way must be found, he said, for spreading the direct and indirect effects of industrialization over producing and consuming countries, and the natural resources must be made the starting point for the industrialization of the country in which they were found. This basic idea has been elaborated in collaboration with prominent economists so that Algeria now feels justified to act as one of the spokesmen for the raw material-producing states of the Third World.[5]

Oil and natural gas can have the following effects on the native economy:

☐ They can lower the cost of energy (motor fuel, gas, electricity) for all demand sectors resulting, amongst others, in the attraction of industries with a high energy input.

☐ Oil and natural gas can serve as primary materials for secondary industries (refining, plastics, fertilizers, etc.).

☐ The local agriculture can be intensified through use of modern materials (fertilizers, chemicals, equipment).

Oil and natural gas however can produce these effects in the producing countries only if organisational steps are taken to give them a distinctive place in the internal economy in accordance with a plan which reflects the wishes of the producing country.

From this follows inevitably a need for national control of the natural resources with a view to the optimum utilization of their direct and indirect potential, i.e., the external economic benefit to be derived by insistence on the highest possible prices for crude oil, and the domestic economic benefit ensuing from the use of the inflowing capitals and the regional advantages, whether man-made or natural, for increased industrialization. The Algerian state achieved a first integration objective by forming the Société Nationale pour la Recherche, la Production, la Transformation et la Commercialisation des Hydrocarbures (SONATRACH) in December 31, 1963, and the nationalization measures of February 24, 1971, which gave the company a monopoly over transportation, oilfields operation and the whole natural gas sector.

Algeria's Economic Problems

In common with all other developing countries Algeria has to cope with a multitude of problems, especially

☐ Low productivity in agriculture and a consequent food deficit (about one-third of all imports consist of foodstuffs);

☐ A large manpower surplus pressing on the labour market (it is estimated that 30–50 p.c. of the potential labour force is unemployed or underemployed);

☐ Mounting regional disparities between the favoured agricultural areas and traditional industrial localities on the coast, on the one hand, and the relatively overpopulated mountain and dry grassland regions which are in part still at a subsistence economy level, on the other.

These problems and the prospect of the exhaustion of the oil reserves in a generation or two create a need for far-reaching industrialization. This "industrial revolution" must go beyond what the industrialized countries are currently offering to the developing countries on their own initiative (e.g. labour-intensive productions based on attractively priced labour). In the Algerian view the countries of the Third World must be given an adequate share in the inter-

[4] Several contributions by Arab and French authors may be quoted, notably A. Ghozali and G. Destannes de Bernis, Les hydrocarbures et l'industrialisation de l'Algérie (The Hydrocarbons and the Industrialization of Algeria), in: Revue Algérienne des Sciences juridiques économiques et politiques, 4/1969, No. 1, pp. 253–294, and the memorandum presented by Algeria to the conference of OPEC sovereigns and heads of state, Algiers, March 1975.

[5] Cf. Azzedine Mabrouki, L'O.P.E.C. et les Tiers-Monde – un même combat (The OPEC and the Third World – the same Struggle), in: El Djeich, Algiers, No. 143, April 1975, pp. 29–34.

national amount of wealth produced whereas a disequilibrium in the international division of labour would force them to be mere bystanders in the processing of their own raw materials, with the result that the added value produced by them would hardly cover the factor costs.

The contribution of the oil industry in this respect is twofold:

☐ The foreign currency earnings from exports of oil (and in future also of natural gas) are considerable. With a present output approximating 50 mn tons a year (1974) 65 p.c. of the whole investment outlay of DM 110 bn under the Four Year Plan for 1974–77 can be met out of oil revenues.

☐ Direct primary effects from the oil industry at the same time stimulate industrial development because it acts as a positive locational factor.

Ideal Industrial Locations

If the oil industry is sub-divided into its branches concerned with

☐ Prospecting and production;

☐ Transport and storage; and

☐ Processing (refineries, petrochemicals),

prospecting and production are seen to provide only ephemeral benefits as is the nature of all mining operations, especially in developing countries[6]. It is true that in the oases Vilaya of Algeria, where all Algerian oil is produced, the petroleum industry is the major industrial employer (in 1972 it provided about 72 p.c. of all industrial jobs although only 9 p.c. of the total employment opportunities) and accounts for 23.6 p.c. of the total disposable incomes of employed persons (including value added in agriculture), but the oil produced cannot be processed on the spot because the production centres are too far from the national and international markets and it is cheaper to transport crude materials than certain derivatives. The adverse climatic conditions of the Sahara also militate against processing operations near the oilfields.

The locational advantages due to the availability of oil and natural gas as energy and raw materials show up at the pipeline terminals and not in the production centres and along the transport routes (as a rule pipelines), the latter being capital-intensive but labour-extensive. Terminals with favourable transport conditions offer an ideal location for industries based on hydrocarbons as raw materials and cheap energy sources if they enjoy other positive factors (labour, capital, accessibility) as well and receive due attention in national planning. This is brought out clearly by a comparison of the development of different oil and natural gas pipeline terminals in North Africa.

The terminal of Bejaia in Algeria was operated by a foreign company until 1971; that at Skhira in Tunisia is still under foreign management. Neither of them had consequential regional effects apart from creating a small demand for labour for pipeline-to-ship transfers. It did not seem advisable to the harbour undertakings to industrialize the areas, perhaps by establishment of oil-based secondary industries; the crude oil passed through without leaving any economic traces. It was not until the present year that Algeria decided on the erection at Bejaia of a 7.5 mn ton/year export refinery.

The two other Algerian coastal terminals, at Arzew and Skikda, are to be integrated with the national and regional economy. They are the terminals of pipelines for which the state-owned oil-gas monopoly company, SONATRACH, drew up the original plans. Natural gas liquefaction plants, refineries and fertilizer factories (at Arzew) and plants for basic materials for the plastics industry (Skikda) and synthetic resins (Arzew) have either been erected or are under construction. They already provide direct employment for 2,500 and 3,400 relatively well-paid and highly-qualified workers – almost all of them Algerians – and for even larger numbers indirectly as contractors working for the big state enterprises.

Attention to Regional Disparities

While plants in coastal towns enjoy the best location for productions intended for export and home markets, their concentration in these towns would aggravate the regional disparities. Use is therefore being made of the manpower potential of the highlands and dry grasslands, in which there has been little industrialization to date, for labour-intensive productions in factories working for the home market which draw on the coastal plants for primary materials derived from oil and gas. Projects in Setif alone, which involve a total investment of DA 800 mn in plastics producing industry, will give direct employment to about 3,100 workers by 1978. The output of these plants, some of which have already been completed, will consist largely of consumer goods (household equipment, toys, packaging material, plastic furniture, floor coverings, etc.) and articles for agriculture (plastic sheeting, nets, boxes, buckets, etc.). New plants are also to be set up at El Asnam.

The Algerian planners look on the coastal plants for the production of basic materials as developing poles around which secondary industries are to be

[6] Cf., e.g., T. Möller, Bergbau und regionale Entwicklung in Ostafrika (Mining and Regional Development in East Africa), in: Afrika-Studien, No. 67, Munich 1971.

grouped according to geographical and other considerations. Through downstream links (e.g. with the plastics industry) and feed-backs (e.g. to agriculture) they are to induce new industrial activities and in this way set off a kind of industrial chain reaction.

Price Determination in the Oil Market

An essential condition[7] for the proper use of the oil and gas production as a lever or motive force for economic development in general is that

☐ the producing countries should gain control over the crude oil production;

☐ the natural resources should be used for large-scale industrialization;

☐ the industrialized countries should provide more financial and technological assistance for the development of the countries which have until now been producing nothing but raw materials.

Algeria has been arguing for some considerable time that the prices must not be determined solely by the law of supply and demand as it affects the oil market. The factor costs of production, it is conceded, are low, but oil is an irreplaceable natural raw material; once extracted, it is irretrievably lost to the producing country. There is a difference, it is contended, between normal industrial activities and the gifts of nature. The charges for the former are at the discretion of the producer. The benefit from the latter should go primarily to the producing country because the – foreign – producers and processors would otherwise receive an exorbitant return.[8]

Following the nationalization of the oil deposits and production, which has been carried through in one Arab state after another since 1971, the next step should be the industrialization of these countries on the basis of this raw material. As the OPEC states recently formulated it, "a substantial proportion of the oil processing (petrochemicals, fertilizers) should be undertaken in the OPEC countries with the (technological) assistance of the industrialized states to which a large part of the output should be exported. At the same time the industrial countries must do away with the discriminatory measures against industrial products from the developing countries."[9] The translocation of oil-based industries to the oil producing countries may even result in advantages (cost savings) for the industrialized consumer countries.[10]

The energy crisis was the first step to give practical effect to such concepts after the producing countries had come to realize that their industrialization could be based on oil as an energy and raw material. It was a surprise only for those observers who were not acquainted with the economic and political reality in the producing and exporting countries of the Third World. Where such a development may lead was shown by a remark attributed to the Shah of Iran: "(In another ten years) not a drop of Iranian oil will be sold abroad, but Western industrialized countries will be offered the chance to buy aspirin and other chemicals from Iran."[11]

Oil Strategy for the Future

A process of emancipation and industrialization has been set in motion which will be propelled forward by its momentum although the stagnation of the proceeds from crude oil shipments and the partial decline of prices (in Algeria from $ 14 a barrel in the first half of 1974 to currently $ 12 and less) has shown to the selling countries that they cannot enforce their economic ideas regardless of the world market.[12]

It follows from what has been said that the Algerian oil strategy, and by analogy the energy policies of the other populous oil producing countries will have the following aims in relation to the world energy market:[13]

☐ Exploration of all potential oil and natural gas deposits so as to gain a general view of the extent of these resources and the possibility of exercising control over them.

☐ Regulation of oil and natural gas production, not only as a function of the demand from the oil importing countries, but with a view to the satisfaction of local requirements. Hence conservation of the reserves and stabilization of oil earnings. Such conservation is the more important because oil and natural gas are a source of energy and, besides and especially, a raw material for the production of innumerable important products including, for instance, the fertilizers which are indispensable to agriculture.

☐ Preservation of the purchasing power of the oil revenues.

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[7] Cf. the memorandum presented by Algeria at the OPEC conference, ibid., p. 65.

[8] Cf. A. Benbella, La politique pétrolière algérienne (The Algerian Petroleum Policy), in: Revue algérienne des Sciences juridiques économiques et politiques, No 4, 1964, pp. 83–103.

[9] Solemn Declaration adopted by the First Conference of OPEC sovereigns and heads of state on 6th March 1975 in Algiers, in the memorandum presented by Algeria at the OPEC conference, ibid., 41–48.

[10] Cf. Farid Akhtarekhavari, Die Ölpreispolitik der OPEC-Länder (The Oil Price Policy of the OPEC Countries), in: Probleme der Weltwirtschaft, Diskussionsbeiträge, No. 2, Munich, no year (1975).

[11] Cf. K.-H. Standke, Europe during the Energy Crisis", in: INTERECONOMICS, Hamburg 1974, No. 7, pp. 217–220.

[12] "Algeria Wants Rapid Industrialization", in: Petroleum Economist, London 42/1975, No. 2, pp. 50–52.

[13] Cf. The Memorandum presented by Algeria . . ., ibid., pp. 70, 1973.

☐ Preservation of the (external) purchasing power of the accumulated currency reserves.

The crude oil production is stagnating in Algeria as in most other traditional oil producing countries. In 1971 the potential annual output was still semi-officially put at 90 mn tons. Under the Four Year Plan a production of 65 mn tons is envisaged, and this compares with an actual output (in 1974) of a little under 50 mn tons.

Algeria is no longer one of the poor countries of the Third World. The comparatively high revenues from the oil industry (an estimate for 1974 is DA 6.5 bn) and the other natural, infrastructural and social conditions enable Algeria to pursue an independent domestic and foreign policy and to act as spokesman in trade controversies between industrial states and raw material producers. The country's whole development strategy is based on a realistic assessment of the internal economic situation. Directly or indirectly the actual and potential regional effects of the activities connected with the Algerian oil occupy a prominent place in Algeria's strategy.

Oil Problems Seen from the Arab Point of View

by Aziz Alkazaz, Hamburg*

The discussion about the problems involved in determining the price of crude oil as a source of primary energy has been dominated until now by aspects bearing on its repercussions on the balances of payment and economic development of the industrialized countries. This one-sided approach can lead to wrong decisions which would have grave consequences for the further development of the world economy. That the industrial states have come in for "unpleasant surprises" in the course of the so-called energy crisis is essentially due to the fact that their energy policies in the past score of years were governed by two basic objectives, namely:

☐ to obtain the oil at the most favourable price, and

☐ to make sure of regular supplies.

The interest of the oil producing states and other raw material countries, on the other hand, were neglected. The current problems cannot however be solved unless the mutual interests of all the parties concerned receive full consideration.

In dealing with the problem of price determination it is advisable to make the medium- and long-term availability of the energy materials on a global scale the starting point. In the last two decades the world energy consumption has been increasing at an average rate of 5 p.c. per annum, and the contribution of mineral oils to the total energy supply doubled between 1960 and 1973, from 28 to 57 p.c.; the petroleum thus bore the brunt of the rising world demand for energy. The fact that the oil prices had been kept down to a low level for 25 years was relevant to the rapid expansion of energy consumption and the simultaneous substitution of mineral oils for solid fuels. The low price of oil enabled the industrial nations to develop their growth industries on the basis of cheap energy, but made it impossible to develop substitute energy sources and energy-consuming technologies in good time.

In the last seven years alone the world has been using up 116 bn barrels of crude oil (1 barrel = 159 litres) – an amount equal to about one-sixth of the total proven reserves of 635 bn barrels at the end of 1973. In this time the world used more oil than it had done in the preceding 18 years, from 1949 to 1966. Its total usable reserves would last 30 years at present output rates (compared with 36 years in 1955). If, as was forecast before the recent price increases, world oil consumption were to increase by 7.5 p.c. annually until 1980, no less than 200 bn barrels of oil reserves would have to be found in the ground in the next seven years merely to maintain the same ratio of reserves to consumption. That however is inconceivable.

On the assumption that the world oil reserves can be augmented at rates of 3, 4 or 5 p.c. a year and world oil production increases by 6 p.c. annually, the world output would on technical grounds go into a steep dive in 13, 17 or 25 years respectively.

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