Gulf Cooperation Council—European Economic Community Dialogue on Petrochemicals : A Study in North—South Negotiations.

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ERNEST ONYEMAECHI U. MOMA

CENTRE FOR WEST ASIAN AND AFRICAN STUDIES
SCHOOL OF INTERNATIONAL STUDIES
JAWAHARLAL NEHRU UNIVERSITY
NEW DELHI - 110067

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जवाहरलाल नेहरु विश्वविद्यालय
JAWAHARLAL NEHRU UNIVERSITY
NEW DELHI - 110067

CENTRE FOR WEST ASIAN AND AFRICAN STUDIES
SCHOOL OF INTERNATIONAL STUDIES

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D E C L A R A T I O N

Certified that the dissertation entitled "GULF COOPERATION COUNCIL - EUROPEAN ECONOMIC COMMUNITY DIALOGUE OF PETROCHEMICALS: A STUDY IN NORTH-SOUTH NEGOTIATIONS" submitted by Mr. Ernest Onyemaechi U. Mama is for the award of the degree of Master of Philosophy of the University. This dissertation has not been previously submitted for any other degree of this or any other university and is his own work. We recommend that the dissertation may be placed before the examiners for evaluation.

Chairman
Centre for West Asian and African Studies
School of International Studies
Jawaharlal Nehru University
NEW DELHI.

(DR. GIRIJESH PANT)
SUPERVISOR

GRAM : JAYENU TEL. : 667676, 667557 TELEX : 031-73167 JNU IN

C O N T E N T S

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P R E F A C E

The mechanisms of international economic relations i.e. Trade, Investment, Aid and Migration, have been increasingly mirrowed in equity. The rationale for and against the global exchange regime has been a persistent point of disagreement in multilateral negotiations. Consequently the impasse that followed has facilitated the crystallization of the North-South dichotomy and spurred academic interest.

It appears that most of the studies on North-South relations have been at a macro-level. The present study makes a departure by examining a specific trade dispute nevertheless, it complements the existing literature on North-South relations.

The GCC-EEC Dialogue on petrochemicals is a micro study of the bargaining potential and constraints of a regional collectivity from the developing world in negotiating with a regional grouping of the developed world in the given framework of North-South relations. The trade dispute under focus is significant as an ageing industry in the EEC has sought and obtained protective measures to ward off 'threat' posed by unrestricted imports of petrochemicals from the nascent GCC units. These

trade restrictive measures are contested within the framework of regional associations.

This study is a humble effort at understanding the process of negotiation between two regions with distinct power assymetries at inter-regional levels and with different levels of cohesion at intra-regional level. Moreover as the two regional groupings are at different stages of development we seek to make an appraisal of the negotiations within an industrial structure where a regional grouping of the developing world is seeking vertical integration at the global level.

This study is premised on the assumption that there are power assymetries in the negotiations.

The study provides evidences that the bargaining power of the GCC in the negotiations is determined by the mutuality of interests between the two regions at aggregate level; the placement of the Gulf petrochemical industry in the world industrial structure ; the technological restructuring with regard to the feedstock situation; the level of cohesion within the GCC; and the extent to which GCC countries re-locate markets in the developing countries.

Much of the literature survey has been based on secondary sources. In our analysis, we have inducted

the findings of earlier studies. The study is classified under four headings.

In the first chapter we unravel the dynamics of the global petrochemical industry and survey the challenges confronted by the nascent GCC sector in a mature product market dominated by international oligopolists.

Chapter two is an illustration of how these challenges are confronted by the GCC countries within the framework of inter-regional Associative Diplomacy. We seek to establish the linkage between the approaches of two regions and the outcome of the Dialogue.

In chapter three an evaluation of the strategies of both groups is attempted. We corroborate evidences available with our hypotheses.

Chapter four is a synthesis of the last three chapters. In conclusion we contend the efficacy of multilateral negotiations in redressing imbalances in the contemporary world economic order.

My debts are many. Gratitude expressed here can not repay them nevertheless they are registered with the hope that it will invite assistance in future. All the faculty members of the Centre for West Asian and African Studies have immensely shaped my understanding of the

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NEW DELHI
Dated 19/7/89.

E.O.U. MOMA

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ABBREVIATIONS

APPE	-	Association of Petrochemical Producers in Europe
CEFIC	-	European Council of Chemical Manufacturers Federations (French Initials)
CMEA	-	Council for Mutual Economic Assistance
EAD	-	Euro-Arab Dialogue
EC	-	European Commission
EEC	-	European Economic Community
GATT	-	General Agreement on Trade and Tariffs
GCC	-	Gulf Cooperation Council
GOIC	-	Gulf Organization for Industrial Cooperation
GSP	-	General System of Preferences
MEED	-	Middle East Economic Digest
MEES	-	Middle East Economic Survey
OAPEC	-	Organization of Arab Petroleum Exporting Countries
OPEC	-	Organization of Petroleum Exporting Countries
UNIDO	-	United Nations Industrial Development Organization

Chapter I

The Gulf Petrochemicals in World Petrochemicals Market: From Conflict to Collaboration

Chapter I

The broad range of chemical products derived from petroleum and natural gas are termed petrochemicals. The petrochemical sector is the most rapidly expanding of the three hydrocarbon-based industries (others are oil refining and gas processing) with annual growth rates of between 10-15% for the period 1960-1970[1], and 3-6% for the period 1975-1985 in the developed market economies where it is concentrated.[2]

Of the world's total merchandise exports valued at $ 194,620,384 million in 1983, $ 19,994,649 million or 10.2% was accounted for by chemical trade. Petrochemicals accounted for approximately 55 to 65% of all chemicals trade which indicates a value of between $ 10,997,056 million and $ 12,996,521 million in 1983.[3]

It is noted that few industries have developed as rapidly and produced so broad a range of new products as the petrochemical industry. The reasons for this are

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1 United Nations Institute for Training and Research (UNITAR), The International Transfer of Technology in the Establishment of the Petrochemical Industry, UNITAR Research Reports, no. 12, 1971, p. 3.

2 European Chemical News (Surrey), vol. 47, no. 1255, 15 December, 1986, p. 18.

3 United Nations Industrial Development Organization (UNIDO), (Vienna), International Trade and the Marketing of Petrochemicals, PC 128, 1985, p. 4.

attributed to the fact that petrochemistry makes optimal use of hitherto useless by-products of oil and gas, and that chemical products therefrom are obtained in greater quantity and improved quality than those from conventional sources.[4]

The petrochemical industry is peculiar with its clearly demarcated production chains and processes. Consequently it is difficult to have a simple classification for the broad range of products. However three broad categories are used to identify products namely : Basic, Intermediate and Final products. The main basic petrochemicals are the Olefins, Aromatics and Methanol.

There are various ways of processing petroleum and natural gas to the basic petrochemicals. Two main processes used in production are the steam-cracking of naphtha for the olefins and catalytic reforming for the aromatics. A third process of steam-reforming is used to synthesize ammonia and methanol (see Figure 1.1). The products constitute the 'building blocks' from which final products are made. Ethylene and propylene dominate the production chains - from basic to final - as the main inputs in

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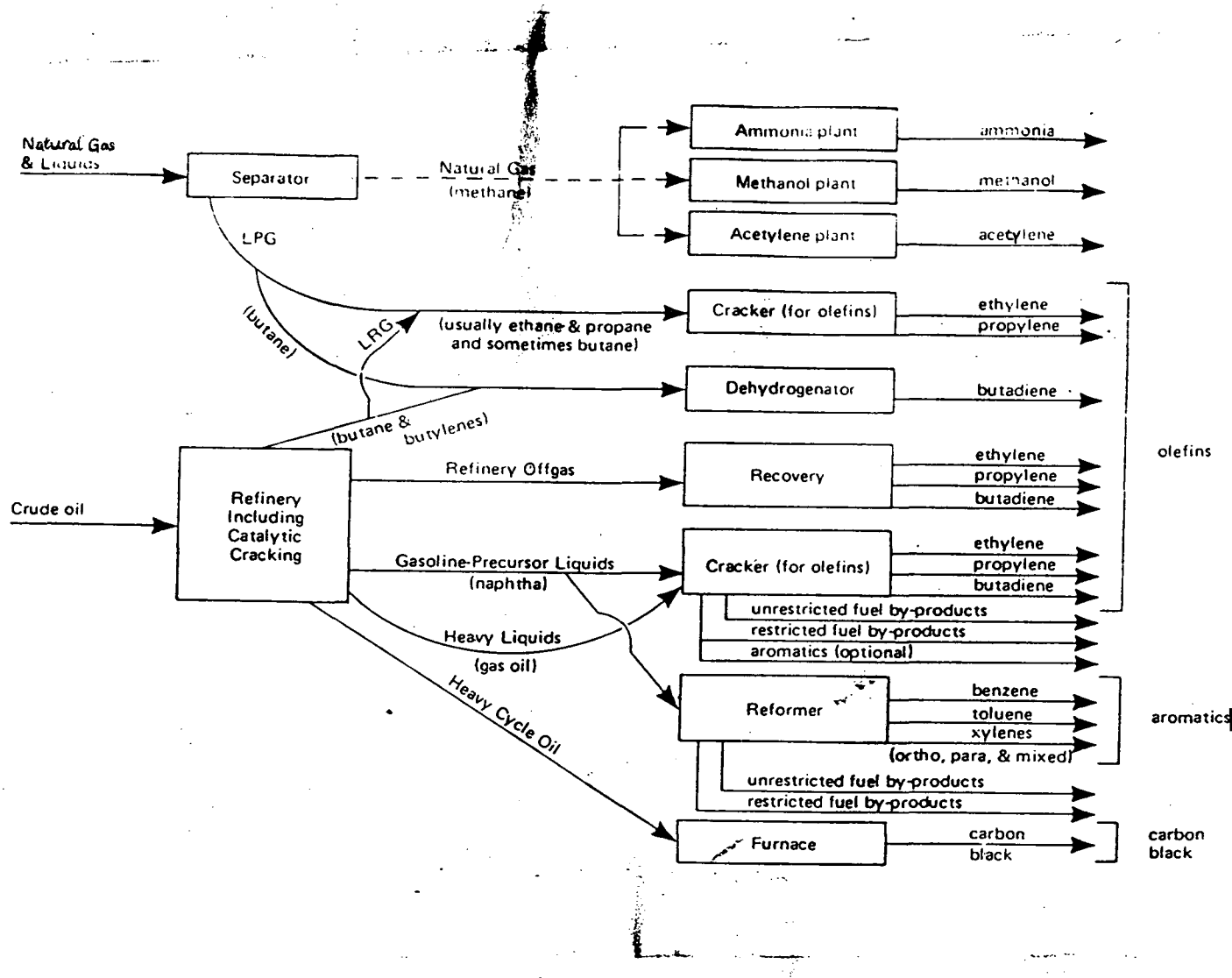
4 UNIDO, The Petrochemical Industry: Perspective for Industrial Development in the Second UN Development Decade, ID 106, 1973, p. 1.

FIGURE 1.1

SIMPLIFIED FLOW DIAGRAM OF PRIMARY PETROCHEMICAL PRODUCTION



Source : US Department of Energy , Reprinted in Louis Turner and James Bedore , Middle East Industrialization : A Study of Saudi and Iranian Downstream Investments (Hans : Praeger 1979) p.204

making plastics; aromatics in the production of synthetic fibres; butadiene and benzene in rubber production and methanol converted into formalhyde in the manufacture of adhesives[5] (Figure 1.2).

A predominant proportion of petrochemical products is converted into Intermediates in the production of plastics, synthetic rubber, synthetic fibres, fertilizers, detergents and pesticides. The production of these materials has witnessed a rapid increase from 3 million tonnes in 1950 to over 70 million tonnes by mid-1970s with plastics accounting for over half of this production.[6]

Petrochemistry has made possible the production of almost all knownorganic chemicals,[7] and a significant amount of inorganic as well, for example, ammonia, carbon-black, sulphur etc. For all its potential in sourcing chemical compounds, the petrochemical route may not always be the most economically efficient. More than the presence of abundant raw materials, it is

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5 UNIDO, World Demand for Petrochemicals and the Arab Petrochemicals Industry, 1984, IS 480, p. 3.

6 Fayad Merwan and Motamen Homa, Economics of the Petrochemical Industry (London, 1986), p. 6.

7 Over 90% of all organics are produced by the petrochemical route. See Merwan and Homa (London, 1986), p. 6.

FIGURE 1.2

PRODUCT DERIVATIVES BY FEEDSTOCK AND PETROCHEMICAL INDUSTRY RELATIONSHIPS

PETROCHEMICAL FEEDSTOCKS OR RAW MATERIALS	PETROCHEMICAL INDUSTRY MATERIALS			PETROCHEMICAL-DEPENDENT PRODUCTS
	"PRIMARIES"	"INTERMEDIATES"	"PRODUCTS"	
Petroleum Liquids	Aromatics	Aromatic/cylic	Plastic Materials	Fabricated Plastic Products
Naphtha	Benzene	Ethylbenzene	e.g.-polystyrene	e.g.-molded products
Reformate	Toluene	Styrene		
Raffinate	Xylenes (mixed)	Phenol	Synthetic Rubbers	Fabricated Rubber Products
Gas Oil	O-Xylene	Phthalic Anhydride	e.g.-polybutadiene	e.g.-tires, tubes
Carbon Black Oil	m-Xylene	Terephthalic Acid		
Crude Oil	p-Xylene	Aniline	Synthetic Fibers	Textile Mill Products
Still Gas	Naphthalene		e.g.-nylon	e.g.-woven fabrics
LRB/Gas				
			Surfactants	Cleaning Preparations
Natural Gas Liquids	Olefins -	Aliphatic/acyclic	e.g.-arylsulfonates	e.g.-soap & detergents
Ethane	Unsaturates	Acetic Acid		
Propane	Ethylene	Ethylene Oxide	Nitrogenous Fertilizers	Mixed Fertilizers
Butanes	Propylene	Ethylene Glycol	e.g.-ammonium nitrate	e.g.-mixtures of N.P.K.
LPG	Butylene	Ethylene Dichloride		
Natural Gasoline	Butadiene	Vinyl Chloride	Phosphatic Fertilizers	
	Acetylene	Formaldehyde	e.g.-ammonium phosphate	
		Butanol		Drugs
	Methanol		Pesticides	e.g.-pharmaceuticals
Gases			e.g.-malathion	Coatings
Methane	Ammonia			e.g.-paints, lacquers
Synthesis Gas				Explosives
Still Gas	Carbon Black			e.g.-blasting compounds

Source : "The Medium to Long-Range International Competitiveness of the United States Petrochemical Industry : A Competitive Assessment", (Draft), (Washington, D.C: US Department of Commerce) Reprinted in Rashid Masood, Petrochemical Industry in Saudi Arabia : A Self-Reliant or Dependent Development? PhD Thesis Jawaharlal Nehru University, 1986 p37

the economic viability that offers stimulus for developing the sector. Among key considerations for any petrochemical route to be feasible besides the feedstock situation, its cost including transportation charges, the organization of the market, applicable taxes and tariffs, range of products to be manufactured, relative efficiency of the chosen production process i.e. vis-a-vis the feedstock situation, energy costs etc.

CHARACTERISTICS OF THE PETROCHEMICAL INDUSTRY

All the different routes to petrochemicals have several things in common. These special features affect the trade and investment patterns in petrochemical sector. Notable among these are the followings:

Capital Intensive

The petrochemical industry is capital-intensive using sophisticated automated equipments; only a few workers are needed for a large amount of capital. It is estimated that investment per unit of output/capital-labour ratio ranges from $ 20,000 to $ 100,000 for each new job created and is one of the highest in industry.[8]

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8 UNIDO, n. 5, p. 7.

Furthermore it is noted that both the initial investment costs of plants using different processes to make the same chemical and at different locations differ significantly as indicated by Table 1.1. On account of the huge costs involved, firms and countries with access to abundant capital - especially in the industrialized countries dominate production and trade in petrochemicals.[9]

Scale Intensive

On account of the huge investment costs, a fairly large scale of operation is necessary to make such plants viable. Therefore new plants have to be added in large steps as revealed in Table 1.2.

Production in most units is geared towards world markets.[10] It is estimated that to be justifiable a large scale cracking operation costing $ 1 billion, a population of fifty million or more should exist to

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9 It is estimated that foreign exchange proportion of new petrochemical projects in the average developing country will be about 60% of total costs and ranges between 58-65% according to the level of development of the developing country. See, UNIDO/OPEC Fund (Vienna), Opportunities for the Establishment of the Petrochemical Industry, IS 376, 16 March, 1973, p. 20.

10 West German chemical industry has an export ratio of 50% and rates among one of the most export-intensive according to a report by Commerzbank on German Business and Finance, see, International Herald Tribune (Hong Kong), July 19, 1988.

TABLE 1.1

INSTALLED COST FOR PETROCHEMICAL PLANTS IN 1980 IN DIFFERENT LOCATIONS

Location		*US Gulf Coast*	*Federal Republic of Germany*	*Japan*	*Indonesia*	*Mexico*	*Qatar*
(Location factor)		*(1.00)*	*(1.15)*	*(0.90)*	*(2.1)*	*(1.25)*	*(1.5)*
Product	*Capacity range 1,000 tonne/year*	*Installed cost range $/tonne/year*	*Installed cost range $/tonne/year*	*Installed cost range $/tonne/year*	*Installed cost range $/tonne/year*	*Installed cost range $/tonne/year*	*Installed cost range $/tonne/year*
Ammonia							
from methane	300–590	277–313	318–360	249–282	281–657	346–391	415–469
from naphtha	300–590	317–356	364–409	285–320	665–747	396–444	475–533
DMT	75–300	883–1,181	1,015–1,358	795–1,063	1,854–2,480	1,104–1,477	1,324–1,772
Ethyl benzene	250–780	77–112	88–129	69–101	161–235	96–140	115–168
Ethylene-propylene*	225–680	611–802	703–922	550–722	1,284–1,684	764–1,002	917–1,202
Ethylene-propylene-butadiene-benzene†	225–680	787–1,025	905–1,179	708–923	1,653–2,153	984–1,282	1,181–1,538
Ethylene glycol	90–360	153–234	176–270	137–211	321–492	191–293	229–352
Ethylene oxide	67–270	701–1,006	806,1,157	137–905	1,472–2,112	876–1,257	1,052–1,509
HDPE	50–200	478–640	550–736	431–576	1,004–1,344	598–800	718–960
LDPE	50–200	692–1,000	796–1,150	623–900	1,453–2,100	865–1,250	1,038–1,500
LLDPE	50–200	461–634	530–729	415–571	968–1,331	576–792	691–951

Source: Fayad Marwan and Motamen Homa, Economics of the Petrochemicals Industry, (London : Frances Pinter 1986) p 219

TABLE 1.2

THE EFFECT OF PLANT CAPACITY ON CAPITAL INVESTMENT AND PRODUCTION COSTS IN THE CHEMICAL INDUSTRIES OF THE DEVELOPED COUNTRIES IN THE 1960's

Production designation	Capacity, thousands of tons/year	Unit capital investment US$/ton	Unit capital investment %	Production costs US$/ton	Production costs %
Ammonia* (from natural gas)	36	139	100.0	46.0	100.0
	102	108	77.7	38.0	82.6
	180	89	64.0	34.0	74.0
Butadiene*	10	600	100.0	239.0	100.0
	20	450	75.0	202.0	84.5
	40	338	56.0	178.0	74.4
Ethylene* (by-products based on the price of the chemical raw material)	50	150	100.0	94.8	100.0
	100	120	80.3	70.3	74.1
	150	100	66.6	66.1	69.7
	300	90	60.0	47.2	49.8
	454	77	51.0	42.8	45.1
Polyvinyl chloride*	6	285	100.0	290.0	100.0
	20	170	60.0	250.0	86.2
	40	129	46.0	239.0	82.4
Styrene†	12	275	100.0	180.3	100.0
	48	162	58.9	149.6	83.0
	96	116	42.1	140.0	77.8
Polystyrene‡	10	278	100.0	235.0	100.0
	40	181	65.3	210.0	89.0
	80	156	56.3	202.0	86.0

* Calculated on the basis of documents produced at the Seventh Petroleum Congress of Arab Countries held in March 1970 in Kuwait.

† Study of Feedstock and Process in the Petrochemical Industry, UNIDO, 1969, page 252.

‡ Studies in the Development of the Plastics Industries (United Nations Publication, Sales No. E.69.II.B.25), pp. 43–9.

Source : UNIDO ,1978, p.79. Reprinted in Fayad Marwan and Motamen Homa, Economics of the Petrochemical Industry (London: Frances Pinter 1986) p.177

consume the products.[11] As not many countries with a developed petrochemical sector have a huge population, the external market becomes a crucial consideration.

High Valude-added

There is a high value-added in the manufacturing process. It is estimated that while oil was selling for a little less than 10 cents a pound, products derived from petrochemicals were selling for 24 to 66 cents per pound.[12] Another study indicated that while a barrel of oil worth $ 12 can produce goods worth $ 84 when converted into plastics such as propylene, and if other final products as polyester film or agricultural chemicals the value increases fifty to hundred times.[13] The potential of the sector becomes clearer if it is noted that between 1980 and 1983 only 8% of total naptha used world wide was consumed in petrochemical production.[14]

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11 UNIDO, Current World Situation in Petrochemicals, IS/PC 126, 14 November, 1985, p. 13.

12 UNIDO, n. 5, p. 2.

13 European Chemical News, 7 July, 1978, p. 6; July 21, 1978, p. 24, reprinted in Louis Turner and James Bedore, Middle East Industrialization (London, 1979), p. 76.

14 UNIDO, The Petrochemical Industry in Developing Countries, Prospects and Strategies, no. 20, IS 572, 24 October, 1985, p. 3.

The high sale value exceeding $ 637 billions in the OECD countries in 1987, connotes indirectly a lucrative industry with significant rate of return on investment.[15] This makes it difficult for established producers to wind-up operations in the face of competition instead preferring imposition of restrictions on new entrants, especially countries with abundant supply of cheap feedstock.

Technology Elastic

With its complex production chains and intensive technical and sophisticated inputs, the industry is technology-elastic. The different routes to final products also produce a wide variety of products and end-uses. When a choice exists among different routes the need to sell at competitive prices indicates the route with lowest operating costs. Suffixed to the technological elasticity is a high rate of obsolescence. This is amply demonstrated with the introduction of low pressure process to make linear low density polyethylene. It seemed the initial focus of this development was cost-reduction for new resin plants, through lower operating costs, reduced capital and energy costs etc. Later it became apparent that the most significant aspect

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15 Economist (London), vol. 308, no. 7559, 16 July, 1988, p. 62.

of the new technology was the performance of the resin itself which was thirty per cent thinner. It is observed that the improved quality led to market switch to the new resin.[16]

Research Intensive

To weather the high rate of obsolescence research and development becomes a necessity to stay in business. Countries and firms with established technical and technological base alone can afford the costs and risks of investment that the sector entails. In the developed market economies, the traditional petrochemical firms have had to compete with 'swarmers' - a wave of non-traditional producers like oil majors and engineering firms - attracted by the buoyancy of the sector. Within the West European market where product cycles of certain commodities have attained maturity, competition tends to be geared not towards market share but process-design, product refinement, and feedstock substitution. This has created a competitive market for technology which in turn has enabled countries without technical know-how

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16 Middle East Economic Survey (Nicosia), vol. 27, no. 34.

to venture into the petrochemical business.[17]

Intra-Feedstock Substitution

The rapid rate of technological innovations has impacted the feedstock situation. Although alternative feedstocks, e.g., biomass, coal etc. are being developed to produce primary petrochemicals, hydrocarbons remain dominant. However, there is an increasing tendency towards intra-feedstock substitution. Naphtha which is presently the main feedstock (outside North America) both for olefins and aromatics has witnessed a decline of its share. It is projected that the global share of naphtha which was 54% in 1984 will drop to 48% in 1989 and to 46% in 1994.[18] Other fuels ethane and methane will increase their shares. The steady decline in the share of naphtha is linked with the escalation of oil price of the recent past. Naphtha price rise reinforced the competitive position of the gas-based American

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17 It is observed that engineering firms have contracted different forms of agreements for the construction of petrochemical plants outside the OECD region. Most of these arrangements incorporate other forms of trade e.g. counter-trade, buy-back arrangements and other market disrupting practices. See, Louis Turner, "Petrochemicals", in Turner and Mc Mullen ed., The Newly Industrializing Countries: Trade and Adjustment (Hampstead, 1982), p. 125.

18 UNIDO, n. 11, p. 14.

industry whose exports rose in the second half of 1979 and 1980.[19]

The rise in the price of feedstock propelled the development of the petrochemical sector in the hydrocarbon-rich countries which hitherto had not developed the sector more so with its high value-added potential. At the same time investments rose in petrochemical-developed locations on account of capital-immigration from uncompetitive locations seeking greener pastures.[20]

A most significant effect of the feedstock price hike was the impact it made on the relative cost structure. Feedstock price which accounted for 46% of ethylene production cost in 1973 rose to 85% in 1980 in Europe.[21] It appears the price of substitute feedstocks will in future determine the share of any feedstock.

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19 Jean Guinet, "The Petrochemical Industry: An Unfinished Adjustment Process", OECD Observer (Paris) no. 133, March, 1985, p. 7.

20 France's Celanese and Du Pout chose to open plants in U.S. to meet methanol demand and to focus on import/export. See, OPEC Bulletin (Vienna), November, 1985.

21 Guinet, n. 19, p. 7.

Migratory

The history of the world's petrochemical industry is replete with instances of production migrating from one region to another in response to development of domestic production capabilities or to changes in cost structures. Decentralization of production to countries outside the OECD region in the late 1960's especially into a few developing countries reflected changes in the world markets. The two oil-shocks' paved the way for a new type of re-location brought about by investment designed to add-value to resource endowments, especially associated gas by transforming them into petrochemicals for exports. The second oil shock accelerated proliferation of this kind as it raised material costs over those of transportation.[22] Table 1.3 indicates this trend. It insured the viability of plants in inexpensive energy rich countries.

Geographical relocation of the industry has also been facilitated by the fact of a technological-mature industry: one in which governments with the determination and capital could buy plants either on a turnkey basis or enter into joint ventures. An expert study highlights

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22 Hitherto location of petrochemical units had been influenced greatly by proximity to market.

TABLE 1.3

GULF REGION : COMPARATIVE ADVANTAGE IN PETROCHEMICAL PRODUCTS (PRODUCTION COST ANALYSIS) 1980

	Methanol		Ethylene		Ammonia	
	(320,000 MTA from Natural Gas) USA	GULF	(450,000 MTA from Ethane) USA	GULF	(430,000 MTA from Natural Gas) USA	GULF
Fuel/MMBTU	$ 4.00	$ 0.25	$ 4.00	$ 0.25	$ 4.00	$ 0.25
Location Factor	1.00	1.25	1.00	1.50	1.00	1.25
Production Cost (¢/kg)						
* Raw Materials	8.52	0.67	22.20	1.59	7.60	0.58
* Utilities	7.16	1.14	9.98	1.91	5.50	1.63
* Other Direct Costs	0.55	0.98	2.97	4.36	0.93	1.27
* Overheads and Taxes	0.62	0.76	2.62	3.29	0.84	1.06
* Depreciation	1.68	2.09	7.04	10.24	2.03	2.53
	18.53	5.64	38.64	20.73	16.90	7.07
% Energy & Feedstock	74%	16%	64%	8%	74%	11%

Source : N. Dabdab and B. Mohyuddin , Oil-Based and Non-Oil Based Industrial Development in the Arab Gulf Region (Doha: GOIC,1982)p.11. Reprinted in UNIDO, World Demand for Petrochemicals and Arab Petrochemical Industry,(Geneval: 1980)p.7

this trend thus:

> " ... deals made during the period 1972-8 names over 24 western European companies entering some form of buy-back arrangement with eastern Europe. Only a handful of these companies (Mitsuibishi Petrochemicals, Uhde/Hoeschst, Mitsui Dow Chemicals and Occidental Petroleum) can be properly described as multinationals". (23)

The recent migratory trend is accentuated by the feedstock situation. European chemical industry which in 1986 accounted for 57% of global trade[24], has thrived and developed on abundant cheap naphtha supply. In response to fluctuations in feedstock prices European chemical companies migrated to North America on account of the relatively cheap feedstock (methanol), situation there as well as the large size of the market. With the added incentive of a cheaper dollar it is estimated that the value of European investments in U.S. chemical sector totalled $ 25 billion in 1987.[25] This picture becomes clearer when compared with the total investments in the American Gulf Coast (where the petrochemical industry is concentrated) valued at $ 40 billion in 1988.[26]

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23 Turner and Bedore, n. 13, p. 120.

24 European Chemical News, vol. 25, no. 1328, 13 June, 1988.

25 Economist, n. 15, p. 62.

26 International Herald Tribune, 19-20 March, 1988, pp. 11-13.

Dominance of Transnationals

On account of economies of scale and 'economies of scope'[27], and the other variables which make the sector viable, transnational corporations (TNCs) have come to dominate several aspects of production, distribution, marketing, warehousing, customer/technical services etc. In adherence to portfolio management principle which demands that firms should dispense investments over several activities to spread risks, these TNCs are mostly multi-product enterprises.[28] In 1972 almost fifty per cent of the global oil industry's $ 23 billion of capital investments went into downstream operations - away from refining to bulk chemicals - after refining operations held out losses due to oil price hike.[29] In Europe presently the top ten companies account for over fifty per cent of total chemical scales.[30]

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27 This refers to the broad range of by-products derived from any feedstock-based unit.

28 All the major companies have increased their involvement in finance management and banking. For e.g. British Petroleum formed BP Finance International in 1985 as a major unit within BP. This, it is presumed would enable it utilise the technical expertise in depth which bank lack. See, OPEC Bulletin, vol. 19, no. 5, June/July, 1988, p. 12.

29 "Downstream Without a Paddle", Economist, vol. 284, 3 July, 1982, pp. 70-71.

30 Economist, n. 15.

However a significant part of their activities is accounted for by their international operations. It is estimated that exports and sales of products manufactured by German subsidiaries abroad currently account for about two-thirds of the group turnover of the three largest chemical firms.[31]

European petrochemical producers tend to manufacture and sell goods in all four big western European markets - West Germany, Britain, Italy and France. In Italy for example international companies currently account for one-third of Italy's $ 40 billion worth of chemical sales. Hence it is no accident that the first protests against unrestricted entry of Arab Gulf petrochemicals sprang from Italian producers.

Resource Intensive

The petrochemical industry is resource-intensive. On account of the typical economies of the sector, production sequence and processes there is need for vertical integration between upstream and downstream operations.

To lay the foundations for any proposed downstream venture the development of infrastructures such as

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31 International Herald Tribune, n. 10.

refineries, pipelines, fertilizer plants, gas processing, power plants, shipping etc. should preceed it. The clusters of these infrastructures overlap the main petrochemical production centres e.g. Benelux, Gulf Coast of USA, Jubail and Yanbu etc. In the development of infrastructures, Saudi Arabia spent over $ 125 billion by 1985 of which Jubail and Yanbu accounted for $ 16 billions.[32]

Energy Intensive

All petrochemical processes are energy intensive. The energy price fluctuations of the early 1970s made major petrochemical companies realise their vulnerable position vis-a-vis their feedstock suppliers and their dependence on oil majors who then regarded themselves as 'energy' companies.[33] They responded to the situation by integrating upstream to secure feedstock supplies for their existing capacities and thereby reduced costs. The oil companies also found an opportunity to diversify away from energy - by increasing their involvement in petrochemicals production. This was facilitated by their

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32 Petrochemicals is only a part of this investment at Jubail and Yanbu according to H.E. Hisham Nazer. For details see OAPEC Bulletin (Kuwait), May, 1987.

33 The oil price rise prompted the energy companies to initiate a restructuring reflected in intra fuel substitution. The oil majors diversified and acquired shares in coal companies, nuclear power companies etc.

control over oil supplies and marketing; cash flow following oil price rises; their ability to develop and obtain under licence the required process technology and their marketing expertise. While the oil companies were reshaping their operations[34], three oil producing countries - Kuwait, Saudi Arabia and Venezuela - were integrating and making plans on oil and gas and petrochemical sectors. This way the petrochemical industry unit energy consumption for the OECD region as a whole fell on average by about 2% a year according to an expert study.[35] However marked variations existed within the region. It is revealed that one-third of the total basic raw materials, oil and gas, used in the petrochemical sector is used to supply the energy needed by the industry.[36]

State Patronage

The role of governments the world over have increasingly been conspicuous in fostering the development

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34 World-wide investments of the 26 largest oil companies jumped from $ 25 billion to $ 82 billion between 1972 and 1979. See, MERIP Reports (London), vol. 14, no. 120, January, 1984, pp. 12-17.

35 Guinet, n. 19, p. 7.

36 Ibid.

and sustaining the growth of the petrochemical sector. In Western Europe, governments and supra-governmental bodies (EEC and CEFIC)[37], have identified themselves with the creation of a 'crisis cartel' to facilitate the current restructuring of the region's sector.[38] In both the United States and Canada, the government policy of price controls on gas has provided unfair advantage to petrochemical producers over their West European counterparts.[39] In Japan the Ministry of International Trade and Industry (Miti) has intervened to ensure the domestic sector synchronizes with the dynamics of global restructuring of the industry. And in the planned economies of the CMEA area, as well as the developing countries the huge investment outlays involved and the strategic role envisioned for petrochemicals places it under state patronage.

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37 CEFIC is the French acronym for European Council of Chemical Manufacturers Federation.

38 For the concept of crisis cartel, see, "Competition Policy in Recession: Crisis Cartels", OECD Observer (Paris), no. 114, January, 1982, pp. 29-31.

39 The competitive position of North American producers was reinforced as naphtha's price rose and this is markedly reflected by the sharp rise in US's industry exports in the second half of 1979 and 1980.

TRENDS IN THE PETROCHEMICAL SECTOR

The cummulative effect of the characteristics of the production processes enumerated above is the overwhelming domination of the OECD countries in production, investment, and trade in petrochemicals.[40] Trade concentration thereby overlaps the geographical production centres creating product grids as Tables 1.4 and 1.5 show. Lately however the share of the OECD region in trade and production has experienced a decline for the different products on the aggregate. Between 1970 and 1981 the intra-trade of the OECD countries as revealed by Table I.5 decreased from 73.5% to 71.6%. At the same time their share of global production declined from 89.1% in 1975 to 87.2% in 1985 while imports remained relatively constant at 70.1% and 69% for the same period. Exports however showed a marginal decline from 93.6% in 1975 to 91.9% in 1985.

The West European industry has been affected most by this decline. This is due to factors both internal and external to the regions industry. Among these is a failure to recapitalize adequately in the sector because

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40 The implication of this trade concentration is that a substantial degree of division of labour takes place in the production process carried out by the TNCs who are thus in a position to reap advantages of transfer income.

Table 1.4

Shares And Annual Growth Rates of Petrochemical Production By Relations (Percentage)

Region	Production					Imports					Exports				
	Share			Growth		Share			Growth		Share			Growth	
	1975	1980	1985	1975-1980	1980-1985	1975	1980	1985	1975-1980	1980-1985	1975	1980	1985	1975-1980	1980-1985
Developed Market Economies	89.1	87.3	87.2	5.6	3.3	70.1	72.6	69.0	9.9	0.2	93.6	93.2	91.9	8.3	-
Developing Countries	3.5	5.3	5.1	15.2	2.6	23.4	21.5	25.3	7.3	4.5	2.7	3.7	4.4	15.2	4.0
Centrally Planned Economies	7.3	7.2	7.6	5.8	4.4	6.3	5.7	5.6	7.0	0.8	3.6	3.0	3.5	4.5	3.7

Source: UNIDO, The Petrochemical Industry in Developing Countries: Prospects and Strategies IS 572, p. 17.

Table 1.5

Trade Flows in Petrochemicals by Region 1970-1981
Percentage Share

↓ Origin	→ Destination	Developed Market Economy Countries	Developing Countries	Socialist Countries of Eastern Europe	World
Developed Market Economy Countries	1970	73.5	19.6	6.9	100
	1981	71.6	21.6	6.8	100
Developing Countries	1970	43.0	45.9	11.1	100
	1981	46.1	48.9	5.0	100

Source: United Nations Commodity Trade Statistics, Reprinted in UNIDO, Tariff and Non-Tariff Measures in the World Trade of Petrochemicals Products (prepared by the UNCTAD Secretariat for UNIDO), 37/IS 573, 25 October, 1985.

of anticipated escalation of naphtha prices which impact costs.[41] Capital from the industry migrated from Europe to the North American industry and at the same time major petrochemical producers resisted attempts by outsiders to invest in the European sector.[42] The maturity of the market for many product lines and the continued operation of old plants using outdated processes and production technologies further increased costs which could not be transferred to product prices.[43]

The availability of cheap and abundant naphtha as feedstock in European petrochemical industry since the 1950's and through the 1960's stimulated growth and exaggerated optimism that impelled traditional producers to expand capacity and also attracted new investors to the sector. In the 1970's as naphtha prices rose, costs

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41 An expert study indicates that West European industry lags behind their Japanese and U.S. counterparts on investment in 1986. Europe invested $ 12.9 billions or 5.3% of sales compared with $ 16.2 billion or 7% of sales in U.S. and $ 8 billion or 6.6% of sales in Japan. For more details see Report by Pankaj Chandarama Associates, cited in European Chemical News, vol. 50, no. 1328, 13 June, 1988, p. 18.

42 ICI and BP/Shell Chemicals (UK) resisted and pressured the UK government not to allow DOW to build an ethane cracker - most desirable feedstock available - at Niggs Bay, Cromanty, See, European Chemical News, vol. 34, no. 934, 21 April, 1980, p. 4.

43 It was revealed that US productivity was twice as high as the European average, European Chemical News, n. 40.

rose and surplus capacity was created. The effect of these influences were lower growth rates, reduced capacity utilization, high costs, shrinking demand, reduced profit margins and oligopolized product markets.

In response to the situation measures were taken to counter both the internal and external influences. These responses conform to some extent with the adjustments taking place on a global scale which is identified at three different but inter-related dimensions viz. : Organizational, Technical and Geographical.[44]

At the organizational level, the industry is being integrated vertically and horizontally through mergers, acquisitions and joint-ventures at national, regional and inter-regional levels. This process is being sponsored by initiatives within the sector and with the approval and support of governments.[45] The resultant effect of this has been the acquisition of market power by certain firms and also, a further migration downstream into speciality chemicals. In Europe for example although there are over eighty producers of chemical fibres, only nine groups account for almost all local production.[46]

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44 UNIDO, n. 14, p. 48.

45 The merger of Italian giants ENI and Montedison in 1988 named ENICHEM approved by the government created the worlds seventh or eighth largest chemical company with combined annual revenue of $ 10.26 billion. See, Economist, n. 15, p. 62.

46 European Chemical News, n. 24.

Technically the feedstock situation is also changing. Naphtha's share shows a steady decline while natural gas and LPG on the one hand and heavier fractions on the other have witnessed increased role. In Europe technical restructuring has meant the reduction in the share of naphtha both as a feedstock as well as in the generation of energy needed in the sector. This latter trend is symbolized and facilitated by the availability of Siberian gas.

After the 1970's the petrochemical industry ceased to follow the geographical structure of petroleum processing. The consumption of end-products albeit concentrated in the industrialized countries had an aggregate growth rate lower than in the developing countries. The period 1975-80 saw a hundred per cent growth in the value of production and exports of the developing countries. Table 1.4 shows that their share of world production increased by only 2% while exports grew by 10%. In the same period the value of the developed countries' production grew by 30% and exports by a little over fifty per cent.[47]

Within the OECD the period 1970-80 witnessed a continued trend in forward integration prompted by the

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47 UNIDO, n. 14, p. 17.

desire to create economies in production costs through reduction in transport costs, feedstock supplies and by-product transfer. As a result captive production dominated much of the market. This vertical trend is also attributable to the increased raw material costs and competition from emerging petrochemical producers in non-traditional locations especially the hydrocarbon rich countries.

The OPEC member countries have ventured downstream on account of the nascent product life of the domestic sector, abundance of cheap capital, the need to optimise utilization of their oil resources, and to valorize gas resources hitherto flared.[48] Moreover, it was also desired to improve the economies of processing on site; diversify their income base; reduce the volume of petrochemical imports to save foreign exchange and thereby improve their balance of trade. A much more overbearing consideration is the realization of the insecurity associated with their erstwhile investment strategies : the depleting value of their overseas investment on account of inflationary influences and a sense of insecurity accentuated by the spectre of unilateral acquisition of

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48 About half of the Arab world's gas reserves are associated with oil. Middle East Economic Digest (London), vol. 39, no. 9, 13 May, 1985, p. 62.

their assets by the domiciled governments. These prospects contrasted sharply with the high rate of return on petrochemicals.

In sum, for the OPEC-member countries,

> "the creation of a petrochemical industry is a means of national, social, technological educational advancement. Due to its strong interaction, and linkages of petrochemicals with other economic activities, it will have the added impact of vitalizing the general economic performance of their economies."(49)

A report by the Doha-based Gulf Organization for Industrial Consulting illustrates the comparative advantage of GCC countries in feedstock and energy. This study along with others rationalized the development of petrochemical sector in the region.[49a]

ADVENT OF GCC PETROCHEMICALS

Until 1973, oil based activities in the Gulf Cooperation Council (GCC) region was confined to mining and crude exports. Processing was restricted to refining and fertilizer industries.[50] The recent move downstream

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49 UNIDO, n. 3.

49a GOIC, "Construction, Production, Distribution Costs of Petrochemical Projects", cited in OAPEC Bulletin, vol. 7, no. 7, July 1981, p. 7ff.

50 Refining in the GCC region started in Bahrain in 1937 with a 25,000 b/d complex followed in 1949 by the 25,000 b/d Al Ahmadi plant in Kuwait. Saudi Arabia's Ras Tanura refinery was the third. See, A.A. Kubursi, "Industrialization in the Arab Gulf States: A Ruhr Without Water", in Niblock and ed., Prospects for the Worlds Oil Industry (London, 1985), p. 44.

will create an advanced integrated industrial base and also expand their share of control over transportation, refining, liqueafaction, processing and marketing of their hydrocarbon resources and derivatives. Such diversification invokes possibilities of reducing attendant risks of a mono-product export as well as the market concentration ratios - hitherto in the OECD - of their exports.

The GCC countries are late comers to the petrochemical industry for reasons linked with ownership patterns in the oil industry that foreclosed advantages that presently accrue to them. The first petrochemical unit in the GCC area was the ammonia plant built at Shuaiba, Kuwait in 1966. The early 1970's saw erection of a number of basic fertilizer plants : Saudi Arabia started production of urea at Damman in 1970; Qatar began production of ammonia from its Umm Said plant in 1973 (see Table 1.6). From 1975 the region embarked on major petrochemical development projects. Products other than ammonia were produced only in 1980 with the commissioning of Qatar's Umm Said Ethylene unit. This was followed by Saudi Arabia's Al Jubail methanol plant - the inaugural in the series of the Kingdom's first generation projects - in 1983. By 1985 Saudi Arabia which has the most ambitious domestic development projects

Table 1.6

Ammonia Projects in the GCC Worlds: Existing and Planned Capacities
(unit: 1,000 metric tons/year)

	Existing 31.12.81			Projects Under Construction		
	Capacity	Site	Start-up	Capacity	Site	Start-up
Bahrain				330.0	Sitra	85
Kuwait	660.0 (2)	Dhuiba	66/71	330.0	Dhuiba	84
Oman				20.0	Sahar	85
Qatar	590.0 (2)	Umm Said	73/79			
Saudi Arabia	180.0	Damman	70	330.0	Al Jubail	84
				330.0	Ruwais	84
Total	1430.0			1340.0		

Note: ( ) indicates number of plants by size.

Source: UNIDO, World Demand for Petrochemicals and Arab Petrochemical Industry (Geneva, 1984).

within the region had completed its first phase projects. For the first generation plants, SABIC invested $ 10.66 billion (SR 38.6 million) by the end of 1984. A commitment of SR 16.4 billion is earmarked for the second phase on various projects including PVC, MTBE and other petrochemicals.[51]

Within the GCC region, there is a heavy emphasis on the production of olefins (basic products) particularly ethylene and its derivatives (see Table 1.7). Excepting Kuwait there is a conspicuous dearth of plans to produce aromatics. The concentration on olefins is rooted in the current experience of flaring associated gas. The ratio of flared gas in the region varies from an insignificant 13% in Bahrain in 1980 to over 72% in Saudi Arabia in the same year.[52] Thus the opportunity cost of flared gas in petrochemicals is almost zero. The need to valorize this resource is manifested in the $ 30 billion Master Gas Gathering System developed in Saudi Arabia.

The limited variety of product-mix is due to the almost total reliance on associated gas which inhibits production of diverse basic petrochemicals using

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51 MEES, vol. 28, no. 49, 16 September, 1985.

52 OPEC Annual Bulletin (Vienna), 1980.

Table 1.7

Evolution of Production Capacity in the GCC Countries in Basic Petrochemicals ('000 metric tonnes)

	Olefins						Aromatics						Methanol		
	Ethylene			Propylene			Xylenes			Benzene					
	1979	1984	1987	1979	1984	1987	1979	1984	1987	1979	1984	1987	1979	1984	1987
Bahrain	-	-	-	-	-	-	-	-	-	-	-	-	-	330	330
Kuwait	-	-	300	-	-	-	-	-	150	-	-	280	-	-	-
Qatar	-	280	280	-	5	-	-	-	-	-	-	-	-	-	-
Saudi Arabia	-	650	1600	-	-	-	-	-	187	-	-	245	-	1250	1400

Source: Fayad Marwan and Motamen Homa, Economics of the Petrochemical Industry, (London, 1986), pp. 223-5.
UNIDO, Saudi Arabia, Industrial Review Series (Vienna), 1986, PPD 7.
UNIDO, World Demand for Petrochemicals and Arab Petrochemical Industry, IS 480, 24 July, 1984, p. 13.
UNIDO, Current World Situation in Petrochemicals, IS PC 126, 14 November, 1985, p. 93.

commercially available technologies. This in effect constrains vertical integration on national, regional or pan-Arab levels.[53] Figure 1.3 illustrates product derivatives of different feedstocks.

To reap economies of the sector the GCC petrochemical units are geared towards world markets neglecting the small-sized domestic market. For example, the Bahrain based Gulf Petrochemical Industry Corporation's (GPIC) ammonia-methanol complex produces 1,000 tonnes a day of both ethanol and ammonia all of which is exported.[54] Whereas of the Sabic total petrochemical production 15% is geared towards the domestic market while it aspires for a 5% of world petrochemical production and 4% of world trade.[55] However SABIC has made substantial efforts at forward integration and its subsidiaries account for some 55% of all Sabic sales totalling $ 2 billion (10 million tonnes) in 1987.[56]

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53 OAPEC Bulletin (Kuwait), 1986, p. 8.

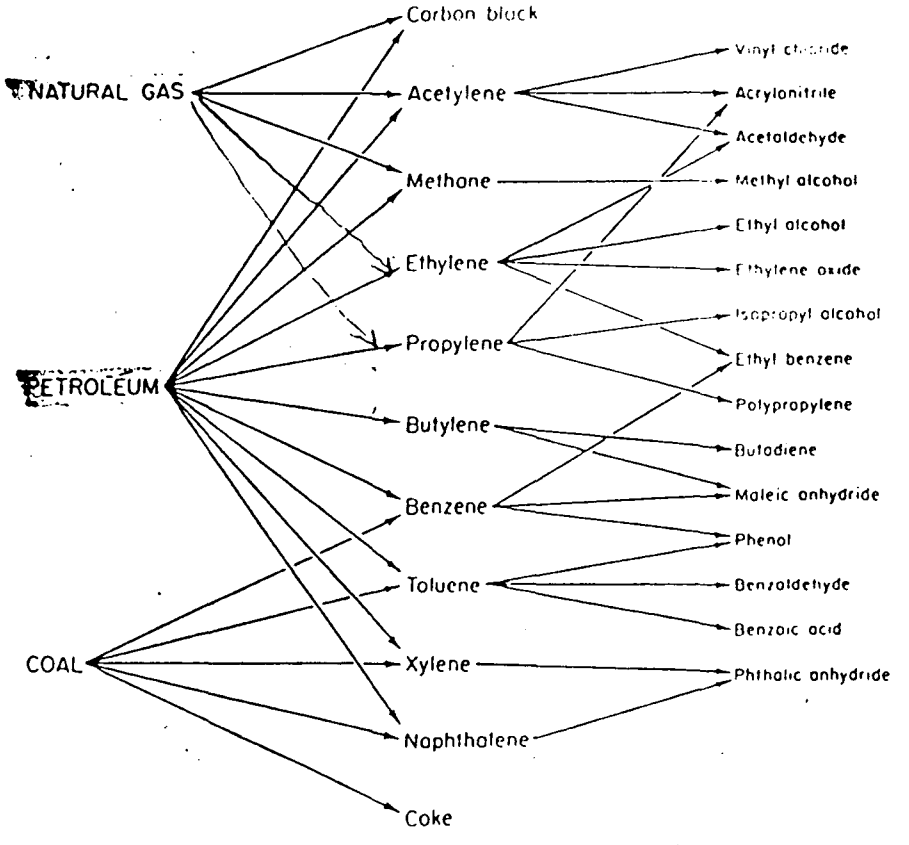
54 Middle East Economic Digest (London), vol. 30, no. 30, 26 July, 1986, p. 10.

55 The Middle East (London), no. 133, May 1988, p. 30.

56 Middle East Economic Survey (Nicosia), vol. 31, no. 23, 14 March, 1988.

FIGURE 1.3

INTERRELATIONSHIPS OF PRECURSORS FROM NATURAL GAS PETROLEUM CUTS AND COAL



Source : Indian Petrochemical Corporation Limited (Baroda) Reprinted in Rashid Masood , Petrochemical Industry in Saudi Arabia A Self-Reliant or Dependent Development PhD Thesis , Jawaharlal Nehru University 1986,p.27

On the whole the GCC countries account for 5-6% of the world market. Fifty per cent of their annual production goes to the Far East and only twenty-five per cent is destined for Western Europe.[57] In 1986 the GCC exports to Community was valued at $ 460 compared with $ 1 million in 1980.[58] The GCC products are beseiged with problems as market entry[59], regional duplication of products as well as capacity underutilization.[60]

The move downstream holds out tremendous benefits for the GCC countries but strategies for developing the sector vary from country to country. Kuwait has pursued a strategy of wholesome vertical integration with the global industry.[61] The sectoral linkages preferred by Saudi Arabia has significantly till now precluded acquisition of its own product-carriers, a sharp contrast with Kuwait. Qatar and Bahrain have concentrated

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57 The Middle East, no. 162, April, 1988, p. 14; and also Oil and Gas Journal, vol. 85, no. 50, 14 December, 1987, p. 20.

58 Kuwait Times, 16 June, 1988.

59 The bulk of Saudi Arabia's products is sent to Western Europe and USA because of partnership arrangements. However at both outlets tariff barriers are being faced.

60 OAPEC Bulletin, January, 1988, vol. 14, no. 1.

61 Saudi Arabia recently acquired a sizeable stake in Texaco.

on ammonia production and pursued a strategy of market dispersal concentrating on the Far East and developing countries mainly.

The increasing difficulty of market entry has given fillip to intra-regional cooperation in setting up joint ventures units e.g. GPIC and also in marketing. All the petrochemical units in the region have been set-up with foreign expertise with varied forms of equity participation with major oil and chemical companies (see Figure 1.4).

As the global petrochemical sector confronts the challenge of restructuring the GCC producers have structurally integrated themselves with the global industry as an insurance against difficulties of marketing both crude oil and petrochemicals on a non-integrated basis. GCC producers have concentrated on those petrochemicals in which they have comparative advantage olefins, bulk intermediates and final products. They have not ventured into specialized chemicals as yet as they are disadvantaged. By venturing downstream through joint ventures the GCC countries along with other OPEC countries have reintegrated the world oil industry and recreated the 'orderly' patterns that existed till the 1960's. A qualitative difference exists for the two periods : the relationship

Figure 1.4

Saudi Petrochemical Projects

S.No.	Projects	Signature date	Site	Joint Venture partners	Feedstock	Products	Output (tons/ year)	Total Invest-ment* (SR millions)	Status
1.	Saudi Methanol Company (Ar-Razi)	24.11.79	Al-Jubail	Sabic Japanese Consortium headed by Mitaubishi (Japan)	Methane	Chemical Grade methanol	600,000	900	Commissioned in February 1983
2.	Al-Jubail Fertiliser Company (Samad)	4.12.79	Al-Jubail	Sabic- Taiwan Fertilizer Co. (Taiwan)	Methane	Urea	500,000	977	Commissioned in February 1983
3.	Saudi Yanbu Petrochemical Company (Yanpet)	19.4.80	Al-Yanbu	Sabic- Mobil Chemical Company (USA)	Ethane	Ethylene EG LDPE HDPE	450,000 200,000 200,000 90,000	7876	Commissioned in December 1984
4.	Al-Jubail Petrochemical Company (Kenya)	26.4.80	Al-Jubail	Sabic - Exxon Chemical Co. (USA)	Ethylene	LLDPE	260,000	3600	Commissioned in November 1984

1		2	3	4	5	6	7	8	9
5.	Saudi Petrochemical Company (Sadaf)	28.9.80	Al-Jubail	Sabic Poctem Arabian Ltd. subsidiary of Shell Oil Co., (USA)	Ethane Salt Benzone	Ethylene EDC Styrene crude industrial ethanol Caustic Soda	856,000 454,000 295,000 281,000 377,000	9963	Commissioned in May
6.	National Methanol Company (Ibn-Sina)	3.2.81	Al-Jubail	Sabic-Celenese/ Texas Eastern (USA)	Methane	Chemical Grade methanol	650,000	1468	Commissioned in July 1984
7.	Arabian Petrochemical Company (Petrokemya)	20.5.81	Al-Jubail	Wholly owned by SABIC	Ethane	Ethylene EG } dro- LDPE } pped PS	500,000 150,000 180,000 100,000	3055	1985*
8.	Eastern Petrochemical Company (Sharq)	23.5.81	Al-Jubail	Sabic-Japanese Consortium led by Mitsubishi (Japan)	Ethylene	LDPE EG	130,000 300,000	1400	1987 June 1985**
9.	National Industrial Gases Co. (Gas)	14.2.83	Al-Jubail	Saudi Private Sector	Atmosp-heric air	Nitrogen oxygen	146,000 438,000	500	Commissioned in April 198

10.	National Plastic Company (Ibn-Hayyan)	18.12.83	Al-Jubail	Sabic-Lucky Goldstar (South Korea)	Ethylene EDC	VCM PVC	300,000 200,000	1333		1986
11.	Saudi European Petrochemical Company (Ibn-Zahr)	16.12.84	Al-Jubail	Sabic-Neste OY (Finland)/ Enichem (Italy) Apioorp)	Butane Chemical grade methanol	MTBE Butene-I Buta-diene	500,000 80,000 124,000	600 (US $)		1986
12.	Gulf Petrochemical Industries Co. (GPIC)	-	Bahrain	PIG (Kuwait)/ BEOC (Bahrain)	-	Ammonia Methanol	330,000 330,000	400 (US $)		Commission
13.	Polystyrene Insulation Foam	-	Jiddah	E.A. Juffali & Dow Chemicals	-	Polystyrene Insulation Foam	140,000	30 (US $)		1985**
14.	Arabian Polyurethane Systems	-	Dammam	Basic Chemical Industries & IGI	-	Polyru-ethane Chemicals	8,000	5 (S $)		1984*

* Project cost at the time of agreement, ** Indicates scheduled date of operation, present status not known.

Source: Compiled from "Saudi Industry", MEED Special Report (London), November, 1983, p. 28; "Saudi Arabian Petrochemical Countdown Now Well Underway", European Chemical News Petrochemicals '93 Supplement (Sulton, Surrey), 19 December 1983, p. 25; SABIC: Projects Status Third Quarter 1983 (SABIC: Projects Implementation Department, 1983);

till the 1960's exhibited a facade of the economic interdependence of nations relative to product trade while the present integration indicates the internationalization of the firm.

PROSPECTS FOR GCC PRODUCERS

An overview of the global petrochemical market reveals that the three-dimensional restructuring process impacts the development of the industry in different regions while it is influenced by the global petrochemical trend itself. Since 1986, the evidences of buoyancy have appeared in the global petrochemical market and for the first time this decade, demand has outstripped supply stimulating higher prices in domestic European U.S. and export markets.[62] Moreover the average utilization has been rated 90-95% in 1987.[63] The new prosperity is thriving on cheap feedstock prices and the general restructuring process undertaken since the early 1980's. The future trends in the market will be determined by several factors of which the following will be crucial.

The extent to which the industry in different regions continue to undergo restructuring such that

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62 European Chemical News, vol. 51, no. 1332, 11 July, 1988.

63 European Chemical News, Chemscope, December, 1987, pp. 4-6; 8-9.

capacity cuts and closures are not reactivated. This way the benefits of modernization implemented over the decade will endure. Governments share the responsibility of expediting approval/procedures for such plant closures on a permanent basis.[64]

The extent to which hydrocarbon-rich states including the GCC scale down previous plans combined with a restraint on acquiring closed units elsewhere, will determine the durability of restructuring benefits. The attitude of these new producers will depend on the price of feedstock as for example falling oil prices have forced Kuwait to scale down domestic plans (see Figure 1.5).

The value of the US Dollar (currency in which crude is priced) will continuously impact the petrochemical market too. A weaker dollar made oil cheap resulting in reduced costs for naphtha-based production units but this has not impacted the selling prices of products. It has brought in earned savings for European producers. For example, in Germany three leading chemical firms are reported to have saved about five billion Deutsch Mark in this way.[65] A cheaper dollar also enabled the

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64 It is alleged that EEC competition law has hindered restructuring in Europe - see, European Chemical News, European Review Supplement, December, 1986, p. 8.

65 International Herald Tribune (Hong Kong), 19 July, 1988.

FIGURE 1.5

DEFERRED OR SUSPENDED PETROCHEMICAL PLANT CONSTRUCTION IN DEVELOPING COUNTRIES ('000 tpa)

Countries (causes)	Ethylene	Propylene	Benzene	Methanol	Styrene	VCM	DMT TPA	PVC	HDPE	LDPE	PP	PS	Other
Lybian Arab Jamahirya (debt)										55			
Indonesia (declining oil sales/prices)	350	-	375			240	225	72	70 70	215 100		68	71 EG 148 Xylene
Philippines (debt)	225									55	60		
Algeria (declining oil sales/prices and long-term arrangements)	500	200			200								Others
Kuwait (long-term arrangements)	350		280		339								135 EG 147 Xylene
Qatar (feedstock)									70				
United Arab Emirates (feedstock)	450												Others
Mexico[a/] (declining oil sales/prices)	500			825		300							

a/ Laguna del Ostion, 19 plants postponed (1988).

Source : "World Changes in the Structure of the Petrochemical Industry," UNIDO Expert Group Meeting on International Co-operation on Petrochemicals, Vienna, 19-21 September 1984. Reprinted in UNIDO, The Petrochemical Indusrty: The Sector in Figures , (Geneva : 1985) p.51

US producers to enhance their competitiveness and spurred sales abroad. At the same time it lured investors from Europe to the greener pastures of the U.S. industry. Such investments (excluding take-overs) are reported to total $ 7 billion in 1986.[66]

The propensity to resort to other forms of trade e.g. barter, buy-back arrangements etc. will undermine the market mechanism. This is predicated to the trends in the world economy. It is observed that recession and recovery of the global economy is amplified in the chemicals sector.[67]

In sum the combination of two factors the absence of all production variables of the industry in any single region and the product-market dynamics has led to a globalized sector. This is manifested in the pursuit of horizontal and vertical integration by established firms and vertical integration by new producers. The GCC petrochemical industry has not emerged as an autonomous sector but is rather dependent and extraverted with a substantial share of its products marketed in the EEC. These competitive products create adjustment problems for European producers in the throes of restructuring.

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66 European Chemical News, vol. 48, no. 1266, 16 March, 1987, p. 22.

67 UNIDO, The Petrochemical Industry in Developing Countries (Geneva), IS 572, 24 October, 1985, pp. 19-20.

The collaboration between GCC producers and major petrochemical producers of the industrialized economies have served the purpose of minimising competition yet disputes have arisen over trade restrictive measures applied on Gulf petrochemical imports into the EEC market.[68]

The process for resolving these disputes have been institutionalized within the inter-regional consultations of the GCC-EEC Dialogue which aims at enhancing the aggregate economic relations between the two regions. The margin of negotiations appears to be defined by the low level of placement of the GCC producers in the global petrochemical industry. Nevertheless the outcome of the negotiations on the petrochemical dispute will have an impact on the Dialogue and vice-versa.

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68 European firms supported and participated in GCC projects by conducting feasibility studies and supervising execution and supplying equipments.

Chapter II

The GCC-EEC Dialogue on Petrochemicals: Genesis and Evolution

Chapter II

The GCC-EEC Dialogue has a precursor in the Euro-Arab Dialogue (EAD) initiated in the OPEC embargo-laden days of later 1973 and early 1974. Though the former is not a wholesome recast of the latter, its structural antecedents lay in one of the working committees formed within the framework of the EAD to define parameters of cooperation between the two regions.[1]

The economic content of the EAD was vitiated and stalemated by the political currents of the age.[2] Of the several sectoral committees formed to identify ways of cooperation, only the petrochemical and refining progressed as deliberations on other fronts were bogged down with procedural than substantive issues.[3]

Progress achieved in the sector was relative as talks on future projections of the sector were punctuated and protracted by the divergent perceptions of the intra-regional lobbies. However the sector's identified potential

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1 Louis Turner and James Bedore, Middle East Industrialisation : A Study of Saudi and Iranian Downstream Investments (England Hans, 1979), p. 111.

2 Saleh A. Al Mani and Salah Al Shaikly, The Euro-Arab Dialogue : A Study in Associative Diplomacy (London, 1983), p. 6.

3 Experts from the Organization of Arab Petroleum Exporting Countries (OAPEC) represented the Arab side in this Committee.

provided a stimulating focus as the cross-cutting interests in oil. and, their aggregate mutual interests circumscribed the EAD and fructified into the GCC-EEC Dialogue.

The GCC has emerged as a bloc and has superceeded the OAPEC in negotiations with the European Common Market.

INSTITUTIONAL FRAMEWORK OF THE DIALOGUE

Since 1981 the European Commission has developed working relations with GCC Secretariat.[4] The relations are maintained and upgraded to be vitiated by the current dispute on Arab petrochemical exports to the Common Market.

With the start-up of the first generation world scale Arab petrochemical plants in 1983, European trade unions and petrochemical producers launched a campaign for their restricted entry into the Common Market.[5] The Gulf products they presumed if unchecked would distort market forces and thereby complicate the industry's adjustment problem.

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4 Commission of the European Communities Directorate General for Information, European Information: External Relations (Brussels), X/212/85 80/85 October, 1985, p. 2.

5 The Middle East (London), no. 107, September, 1983, p. 55.

The Gulf producers discount the 'threat' envisaged from their products and warn it would be unacceptable to erect trade barriers against them. The Saudis in particule express a desire to enter the market in an 'orderly' manner and that all of their sales will be made under contract and marketing will be globally dispersed.[6]

This problem became a component of the Dialogue between the regional groupings as both emphasized a desire to protect their respective domestic sector.

In the two years (1983-85) of informal consultations aimed to consolidate economic ties between the two regions the petrochemical dispute deadlocked talks.[7] In the course of talks the GCC Secretariat formally launched its demand for duty-free access for its petrochemicals into the Common Market. Significantly this demand was made to the individual member states not to the European Commission. These national governments passed on the dossiers to the Commission which is the competent authority on trade matters.[8]

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6 Middle East Economic Digest (MEED) (London), vol. 29, no. 4, 25 January, 1985, pp. 31-33.

7 MEED, vol. 29, no. 47, 23/11/85, p. 8.

8 European Chemical News (Survey), vol. 42, no. 1130, 7/5/84, p. 4.

The GCC followed this action with a proposal to the European Commission in July 1984 for exploratory discussions as a prelude to the conclusion of a cooperation agreement.[9] Subsequently official talks started in February, 1985.[10] By April 1986, these exploratory talks concluded and followed by formal negotiations on a trade pact.[11] These talks crystallized into the two-tier cooperation agreement for which the first pact was ratified in June 1988.

At the core of the current dispute is the preferential treatment accorded under the GSP to semi-manufactured "non strategic" and manufactured "strategic" products emanating from developing countries into the Common Market. The GCC countries feel that the GSP is being restrictively applied on their petrochemical exports to the EEC.[12] They seek a revision of the GSP ceilings and also a tariff free entry for all their exports like the status enjoyed by Israel. Worried at the prospect of an influx

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9 Directorate General for Information of the European Commission, n. 3, p. 3.

10 Ibid.

11 MEED, vol. 30, no. 18, 2/5/86, p. 2.

12 The first tariffs imposed on GCC petrochemical products was a 13.5% duty on Saudi Methanol in August 1984, Middle East Economic Survey (Nicosia), vol. 27, no. 46, 27 August, 1984.

of petrochemicals from the Gulf area, the European Commission has consistently invoked the GSP and other GATT provisions; measures which have aggravated market entry problems of the Gulf products.

ISSUES AND ARGUMENTS IN NEGOTIATIONS

The divergent perceptions of the respective regional pressure groups - which are translated into institutional views[13] - on the economics of each others petrochemical sector have further constrained efforts to consolidate their economic ties.

For the GCC countries moves downstream is a natural process within a policy of economic diversification away from mono-product export. Industrialization is the key to such diversification. Moreover such a position conforms with the principle of international division of labour.[14] With a projected share of 5-6% in the market for basic and intermediate petrochemicals, they argue

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13 The European Council of Chemical Manufacturers Federations (known by its French initials CEFIC) brings together all chemical manufacturers in Europe. Among CEFICs sector groupings the largest is the Association of Petrochemical Producers in Europe APPE which aims to achieve a coherent representation of the petrochemical industry and acts as its spokesma CEFIC is an integral part of the consultative machiner of the European Communities the Council of Europe, the European Parliament etc. See European Chemical News, vol. 48, no. 1258, 19 January, 1987, pp. 84-88.

14 They affirm their adherence to this policy and foster it by founding new joint ventures with other developin countries.

that opportunities exist for established producers of the EEC in the high technology speciality consumer products and services. This, it is contended will facilitate regional specialization and they have urged the EEC to dismantle barriers on their products.

Maintaining that customs duties in the Common Market are routinely imposed according to legal regulations within the framework of the Community's international commitments, the European side finds it impossible to offer tariff exemptions to the GCC products alone to the exclusion of other regions without violating GATT's provisions. Moreover it is argued that the GSP is a non-reciprocal unilateral concession to developing countries. Tariffs cannot be altered for the benefit of competitive exports in what is perceived its "most advanced beneficiary country".[15] The GCC countries are reminded that the GSP status are not accorded to their products in other developed market economies. Parallels are drawn to tariffs imposed on US, Canadian and Libyan petrochemical products imported to the Community.[16] Such duty it is stated are activated

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15 Interview with Mr. Claude Cheysson, EEC Commissioner for North-South Relations in MEED, vol. 29, no. 51/52, 21/12/86, pp. 34-36.

16 Khalid Al Shawi, "The Art of Negotiation and the Arab-Gulf States Ability to Negotiate the Export of Their Petrochemical Products", OAPEC Bulletin (Kuwait), July, 1985, pp. 8-15.

on quantities in excess of the allowable limit. Refuting the GCCs view that customs duties were protectionist measures, it is claimed fixed value ceilings on petrochemicals are allowed duty-free into the Common Market after comparing the demand and production within the EEC. Instead the GCC is charged with a 'pick and choose' policy in which the most profitable markets are exploited.[17]

European pressure groups claim that Europe already imports substantial volumes of Gulf products. It speculates that tariff removals would create a captive European market for Gulf producers who would then be inspired to a new round of plant construction that will exacerbate the glut and undo the on-going restructuring. This view was transposed on the EEC which overplayed the competitiveness of Gulf petrochemicals terming them "unbeatable" at their delivered prices to European consumers.[18]

At the aggregate level of their commercial relations, the Gulf side remind their European counterparts that tariff structure in the GCC area is one of the most liberal averaging only about two per cent duty charges.[19]

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17 Report by APPE warning of the Danger in Free Trade Pact, see, European Chemical News, vol. 51, no. 1347, 31 October, 1988, p. 10.

18 MEED, n. 6, p. 8.

19 MEED, vol. 28, no. 15, 21/1/1985.

Barriers to their petrochemicals therefore amounted to an inversion of obligations with regard to the GSP. Nevertheless the GCC countries affirm their faith in free trade as vital for countries wishing to expand their exports and not merely to reduce imports.[20]

It is estimated by a Gulf official that tariffs on Gulf petrochemicals have reduced their netback margins by about 14%.[21] This measure is considered 'political' as it neither affects prices in Europe nor encourage more production and will not prevent Gulf exports to the EEC. Duties on GCC basic and intermediate petrochemicals which are used in manufacturing final commodities it is argued will keep prices artificially high and earn profits to producers at the expense of consumers (in both markets)[22], thereby hindering the restructuring process.

Discounting European fears of job losses the Gulf official cites proposed protectionist legislation in the U.S. which a study revealed would safeguard 9,000

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20 MEED, n. 6, p. 7.

21 Ibid.

22 Fifty-five per cent of chemical exports (estimated at about SR 550 m) to Saudi Arabia originate from the EEC. See, MEED Special Report, May, 1986, pp. 24-29. MEED, vol. 29, no. 47, 23/11/1985, p. 7.

jobs in the industry but result in the loss of 275,000 jobs in industries dependent on cheap sources of petrochemicals.[23]

The notion that distribution costs are a direct function of distance shipped is imparted in the charge that Gulf producers practise a selective marketing strategy. The Gulf side acknowledges that though a strong incentive lies in selling close to the producing point, the largest cost for distribution is however not freight. Charges for packaging, ship loading and unloading and terminating are estimated to account for about two-thirds of the total distribution costs.[24]

To European protests of unfair pricing for factor inputs, the Gulf producers state a commitment for reasonable returns through economic competitiveness.[25] Gulf governments are accussed of offering discounted prices for feedstock and energy, cheap finance and other industrial subsidies that give their state-owned industries unfair advantages. Specifically it is stated that these advantages manifest in Gulf methanol which is 20% cheaper than European product.[26] Mr. Zamil, the

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23 MEED, n. 6.

24 MEES, vol. 27, no. 34, 4/6/84.

25 MEES, vol. 28, no. 15, 21/1/85.

26 MEES, vol. 28, no. 23, 18/3/85.

Electricity Minister of Saudi Arabia, affirms that feedstock in the Gulf are sold at the full cost of 'extraction, gathering, delivery plus an element of profit without reference to any market'. Furthermore he attributes the availability of gas at a low level in local industry to the advantage of proximity.[27]

The Gulf producers highlight other costs which narrow their competitive advantages. These include higher depreciation, operating, marketing and distribution, maintenance, capital, training, construction costs, higher capital charge, and import tariffs.[28] The incentives provided to local industry are offset by these costs. Therefore, Gulf products they maintain will tend to have a high cost advantage in some markets and in others due to higher delivered costs and presence of highly efficient and economic domestic producers they will be disadvantaged.

Aware of the inevitability of imports of Gulf products, European producers seek the establishment of an international system for rationalizing global production of petrochemicals to which Japanese and American producers - joint venture partners of Gulf producers -

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27 Ibid.

28 MEED, n. 6.

may become parties. The GCC acknowledges the importance of reorganizing the industry and the trade in petrochemicals. It however feels it is not right to maintain the status quo of trade relations by protecting high cost industries in a manner contradictory to the principles of free trade and international commercial exchange. Citing structural adjustments elsewhere, the Gulf producers foresee a solution in a reorganization of the industry according to the principle of international division of labour.[29] Apparently a case exists with conflicting views maintained by petrochemical producers in both regions. The case constitutes a problem requiring negotiating parties to find a solution before it threatens relations between the two regions.

APPROACHES TO THE NEGOTIATIONS

Commercial relations between the two regions are fostered not only by geographical circumstance but also the differentiated levels of their development on which the GCC countries could benefit in their desire for industrialization. The importance of their relations is reflected in the complementarity of their economies and emphasized in the over twenty billion dollar annual trade exchange between them : an incentive for resolving

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29 Al Shawi, n. 15.

a dispute on which there is a bilateral recognition of each others sensitivities.

As the most affected country by EECs trade restrictive measures, Saudi Arabia has contested the European action within the framework of the 'Associative Diplomacy' of the GCC-EEC Dialogue ; Saudi Arabia-EEC relations; OAPEC-European Commission Negotiation Committee[30]; Arab-European Chamber of Commerce[31]; and SABIC-APPE/CEFIC exchanges. Irrespective of the fora at which redress is sought, the Gulf side adopted a defensive strategy. Its essential component was to protest the trade restrictive measures, discount the 'exaggerated' notion of competitiveness and provide assurances of responsible market behaviour ; with the objective of securing a consensus, sympathetic to its stance.[32] Though appearing inflexible in its demand for tariff removal, the Arab side acquiesced successively to EECs proposals (small measures) yet remained incapable of making proposals of its own. The Arab side conceive the negotiation sessions as a 'learning process' for

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30 OAPEC Bulletin, Press Release on High Level Meeting of EC/OAPEC in Brussels, January 1986.

31 MEES, vol. 28, no. 10, 17 December, 1984.

32 MEED Special Report, May, 1986, pp. 24-29; MEES, vol. 31, no. 7, 23 November, 1987.

the Europeans hoping that a consensus solution can be reached after imparting the necessary awareness.[33]

On the other hand the EEC's strategy has been to prolong the sessions; stalemate it with tough postures and to offer soothing 'damage limitation' concessions.[34] This strategy manifests in the strident invocation of GATT provisions with scant regard for impending sessions of the inter-regional meetings.[35] A prolonged negotiation session thereby enables the restructuring process to complete its course. The hesitancy and ambivalence of the Gulf side is executing the threat of retaliatory trade restrictive measures against EEC's imports confirmed its weakness which the European side exploited to the hilt. It substantiated the 'threat' value of Gulf imports and the EEC adorned the image of a benefactor in the negotiations.

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33 Interview with GCC Chief Negotiator Mr. Mamun Al Kurdi in Al Shargal Awasat reprinted in MEES, vol. 31, no. 7, 23 November, 1987.

34 When Saudi retaliatory action seemed imminent, the EEC made a commitment in a "confidential Agreement" not to impose barriers on her products but when the threat subsided the EEC breached the commitment. See, MEES, vol. 29, no. 10, 16/12/1985; MEED, vol. 29, no. 51/52, 21 December, 1985, p. 34.

35 The Middle East, no. 131, September, 1985, p. 28; European Chemical News, vol. 51, no. 1354, p. 6, 19/26 December, 1988.

An adjunct to the European strategy is its dilatory tactic which extolls the complementarity of their relations[36], and seeks to sanctify it in the broad framework of a comprehensive cooperation agreement.

A conviction that negotiations will be protracted permeates both sides.[37] While charges of political motives exchanged on each others actions and attitudes, each made ameliorative offers to the other.[38] Concurrently alternate solutions are sought to underscore the primacy of the irritants arising from the petrochemical dispute in the interest of their aggregate relations.

The GCC producers relocated markets elsewhere[39], and also enhanced the level of integration with the global industry by making off-shore acquisitions in

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37 Statements of EC Commissioner for North-South Relations and GCC Chief Negotiator reported in MEED, vol. 29, no. 51/52, 21 December, 1985, pp. 35-36; MEED, vol. 29, no. 27, 6 July, 1985, p. 2. Times of India (New Delhi), 15 March, 1985.

38 See Saudi Gazette (Jeddah), 7 August, 1985; MEED, vol. 29, no. 31, 3 August, 1985, p. 19; MEED, vol. 29, no. 32, 10 August, 1985; MEES, vol. 28, no. 39, 8 July, 1985.

39 Sabic exports to China for example increased in volume and value from 105,000 metric tons ($ 15 millior to 320,000 metric tons ($ 43 million) in 1986 and 1987 respectively. See, Oil and Gas Journal (Tulsa), vol. 85, no. 50, 14 December, 1987, p. 20.

marketing, technical firms etc.[40] They also took initiatives of convening talks with the U.S. and Japan, whose multinationals are joint-venture partners and are obliged to market Gulf products in both markets.[41]

Apprehending Arab retaliatory action for its intermittently induced stalemate, the European side accelerated technological restructuring process and complemented it by exploring other sources for primary fuels in energy and as petrochemical feedstock. The contract for Siberian gas symbolizes this trend.[42]

As the GCC producers integrated with the global industry, the European Commission in 1987 altered its trade restrictive regime from the ceiling system to quota system. With this change the European Commission divested its member-country which seeks activation of tariffs under the former system the onus of bearing GCC retaliatory measures which appeared imminent.[43] Though

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40 Saudi Arabia acquired shares in Texaco's marketing outfit as well as establishing offshore marketing services. See, MEES, vol. 31, no. 37, 20 June, 1988; MEED, vol. 32, no. 9, 27 February, 1988, p. 16; MEES, vol. 28, no. 28, 22 April, 1985.

41 MEES, vol. 29, no. 3, 28 October, 1985.

42 Forteen West European countries have contracted for Siberian Gas. See, International Herald Tribune (Hong Kong), 27 July, 1989, p. 9.

43 Statement of GCC Chief Negotiator. See, MEES, vol. 30, no. 10, 15 December, 1986.

the GCC side appeared incapable of collective retaliatory action, individual countries demonstrated the capacity albeit indirectly.[44]

OUTCOME AND PROSPECTS OF THE DIALOGUE

The course of the negotiations reveals the immense clout which the European petrochemical industry has which is wanting in its Gulf counterparts. The European industry pressed its case at national and regional levels recalling the role and achievements of the sector and dangers which free trade would wreak on the industry and economies of the region. The nascent GCC industry is immensely disadvantaged on these counts. The successful lobbies at the national levels forestalled pro-GCC inclinations within European Commission.[45]

The ratification of the first of the two-stage cooperation pacts in 1988 epitomizes the European preponderance in the negotiations as well as the pro-tariff lobby in the EEC region. The first pact commits

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44 Kuwait imposed tariffs on Lube oil imports. See, MEES, vol. 27, no. 46, 27 August, 1984; Saudi Arabia clamped protective tariffs on cable imports and enhanced tariffs elsewhere too. See also, The Middle East, no. 125, March, 1985, p. 43; MEES, vol. 28, no. 25, 1 April, 1985.

45 The EEC Commissioner for North-South Relations Mr. Claude Cheysson, an ardent supporter of free trade had to succumb to pro-tariff lobby. MEES, vol. 31, no. 8, 30 November, 1987; MEED, vol. 29, no. 51/52, 21 December, 1985, pp. 34 and 36; MEES, vol. 28, no. 23, 18 March, 1985.

both sides to continue granting each other most favoured nation status with a stand still (not a roll back as demanded by the Arab side) on new tariffs and trade restrictions.

GCC's hopes of a trade liberalization in the sector may seem plausible in view of the commitment both sides made for negotiations on it in the second stage. However such hopes appear misplaced as the European Council has foreclosed it in an assurance to domestic producers.[46]

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46 European Chemical News, vol. 49, no. 1302, 30 November, 1987.

Chapter III

Evaluation of the Negotiations

Chapter III

Technically the dispute in petrochemicals trade between the GCC and the EEC derive from the ambiguities and contradictions of the GATT provisions. The GATT provides the framework in which most international trade occurs as also the multilateral negotiations on trade-related disputes.

At its inception in 1944, it was envisaged that to achieve the desired goal of GATT commercial policies of participating countries should have four fundamental principles : Non-discrimination, Liberalism, Stability and Transparency. However the trend is that governments have found discriminatory - bilateral and multilateral - arrangements more attractive. One of such arrangements relevant to the present study is the General System of Preferences (GSP).

The GSP aimed to encourage industrialization in the Third World by providing preferential treatment to their exports. It consists of special customs arrangements applied by industrialized countries to products originating in the developing countries. Built upon the principle of preferential i.e. discriminatory treatment, the GSP violated the first article of GATT, the Most Favoured Nation (MFN) principle.

It is the invocation of tariffs under the GSP that is the crux of the problem which this study has addressed.

The GSP supposedly aims to encourage industrialization in the Third World. And in 1979 an international organization identifies the petrochemical industry with its remarkable growth rate as the sector for accelerating the process :

> "Since the petrochemical industry processes raw materials exported by developing countries and consumes large quantities of energy it should be considered as one of the industries that will make essential contribution to the achievement of the Lima target". (1)

It is observed that tariff schedules for petrochemical imports to the EEC are least among basic 'petrochemicals-products' which most GCC producers manufacture, and are significantly higher on the intermediate petrochemicals.[2] The tariff structure acts as a disincentive for GCC producers to move further downstream and appears to restrict them to exporters of 'primary petrochemicals'.

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1 United Nations Industrial Development Organization, Report on the First Consultation Meeting on the Petrochemical Industry (Mexico City), ID 227/IDWG. 291/9/REV 1, 22 March, 1979.

2 UNIDO, International Trade and the Marketing of Petrochemicals (Geneva, 1985), PC 128.

The restrictive measures applied by the EEC have affected trade and investment in GCC petrochemicals. The barriers have neither stopped imports nor obscured the 'threat' from the competitive GCC imports. Tariffs have enhanced the cost to European importers of GCCs basic petrochemicals. The cost increases are transferred to finished products some of which are exported to the GCC region. Consequently tariffs have worsened the balance of trade in petrochemicals for the GCC countries.[3]

The protectionist mood in the EEC against Gulf petrochemicals has created market uncertainties, eroded business confidence and frightened away potential investors in the sector.[4] For example, Saudi Arabia is compelled to seek alternative marketing avenues by making offshore acquisitions in marketing firms to buttress confidence in domestic investors. The case study confirms popular view that the global exchange regime in its present form is not geared towards

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3 It is revealed that the increase in trade surpluses enjoyed by the EEC is because the GGC had to pay more for imports while their exports prices were depressed. See, European Chemical News (Survey), vol. 52, no. 1356, 16 January, 1989, p. 15.

4 See, The Middle East (London), no. 165, special survey, July, 1988, pp. 47-50; Middle East Economic Digest, vol. 29, no. 47, 23 November, 1985, p. 8.

absolute free trade.[5] It also upholds the findings of an earlier study that trade barriers in the industrial countries play an important role in retarding growth in developing country exports.[6]

The installmental outcome of the GCC-EEC Dialogue provides a general framework for cooperation but has yet to resolve the petrochemical trade dispute. It indicates the preponderance of the EEC in the negotiations.

Both sides have expressed their objectives. However, the desire for manoeuvrability prevents either from committing itself to a position from which negotiations could proceed. It appears serious negotiations have yet to start and the sessions of consultations till now have been a series of unproductive sparring as the commitment to resolution of the dispute still lacks.

Inputing a game theoritic analysis to the approaches of both sides it may be inferred that the European side has consistently viewed a commitment to negotiations as a zero-sum game in which it is the

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5 Diana Tussie, The Less Developed Countries and the World Trading System (London, 1987), p. 39.

6 The 'Haberler Report' sponsored by GATT documented this findings. Excerpted in Tracy Murray, Trade Preferences for Developing Countries (London, 1977), p. 10.

benefactor. Whereas the Arab side envisages bilateral benefits in a positive-sum approach. The assymetry in approach results in the stalemate.

FINDINGS AND OBSERVATION

In evaluating the negotiations from the pay-offs received and date of settlement it appears the Arab side has not sufficiently exploited its bargaining leverage for want of collective action. A consensus would have enhanced their bargaining leverage. It has been incapable of such action because of the different perceptions within its member-countries and between member-country and the GCC Secretariat.[7] The efficacy of employing countervailing i.e. retaliatory tariff has been one such driving-wedge. The inherent weakness of the GCC, and the failure to execute the publicised threat - preferring persuasion to confrontation - discredits the threat.

Another significant leverage unused is the over twenty billion dollar annual commercial exchange between the two regions. It is observed that no trade diversion

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7 See, MEED, vol. 29, no. 47, 23 November, 1985, MEES, vol. 28, no. 44, 12/8/85; Saudi Gazette (Jeddah), 7 August, 1985, The Middle East, no. 135, January, 1986, p. 26; MEES, vol. 30, no. 10, 15 December, 1986.

initiatives have been taken and no GCC country has made efforts towards diverting their huge investments from the EEC region. The deficit balance of trade between the two regions in petrochemicals provides ample justification for collectively seeking a redress but remains unexploited.[8]

The presence of a pro-free trade lobby including consumers of cheap GCC petrochemicals in the EEC has yet to be fully harnessed.

Lastly, the GCC failed to exploit the concession granted by the European Commission to the USA on the dispute on grain trade. In this case the European Commission lowered tariffs on certain chemicals imported from the US to compensate for reduced grain trade consequent to the accession of Spain and Portugal to the Community. Significantly this concession was handed at a time when talks at the political level between the GCC and EEC touched on free trade.[9]

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8 It is estimated that the EEC surplus in chemical trade of about Ecu 1.3 billion and Ecu 1.26 billion in 1986 and 1987 respectively. European Chemical News, vol. 52, no. 1356, 16/1/1989, p. 15. Mr. Zamil claims that there are 140 major European manufacturers using Saudi Methanol. See, MEES, vol. 27, no. 51, 1 October, 1984.

9 European Chemical News, Chemscope, April, 1987, p. 3.

The GCC is also constrained on other fronts as well. The intense nature of the linkages of the GCC economies with the developed market economies especially the EEC which is indicated in their technological dependence, high trade volumes, high level of investments in the EEC, etc. make them susceptible to European blackmail if retaliatory measures deemed hostile were applied.

There is an assymetry in the perception and approaches to the dispute. The European petrochemical producers viewed the dispute in regional terms while their GCC counterparts viewed it in narrower intra-sectoral dispute. However the GCC countries /secretariat are compelled to contest European actions on different turfs; at the intra-sectoral level (the State owned Gulf units faced the combined onslaught of European petrochemical producers and petrochemical labour associations)[10]; national governments; and within the framework of the Associative Diplomacy. It appears that this is an unequal contest between the nascent GCC secretariat and the older European Commission.

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10 Petrochemicals industry is state-run in the GCC, moreover there are no organized labour outfits so the contest and exchanges appear to be politically tainted.

Till 1985, only Kuwait of the GCC countries was a signatory to the GATT. Saudi Arabia applied for observer status only in 1985.[11] Though Saudi Arabia could demand GSP allotment as a developing country it is constrained if the EEC were to assert its non-reciprocal obligations.[12]

The European side had no sense of vulnerability and urgency for reaching an accommodation whereas the immediacy of a market for the GCC products buttressed by the perception of a long drawn negotiations did not afford putting their eggs in one basket.[13] The alternative of locating markets elsewhere has underscored the primacy of the negotiations and made the EECs position appear more intrasigent. The stalemate in the negotiations and the alternatives worked out on both sides did not obscure their mutual dependence but underlines the assymetry in dependence.

It appears that the potential bargaining leverages of the GCC countries constitute a source of weakness

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11 MEED, vol. 29, no. 25, June 1985, p. 32.

12 Under the unilaterally imposed obligation of the EEC to developing countries who are signatories to GATT and Lome Convention, their exports earnings from their raw materials will reach a specified minimum level during a five year period.

13 MEES, vol. 29, no. 8, 2 December, 1985.

because of the extraverted nature of their economies. The successful recycling of surplus petrodollars in the last decade to several of the EEC countries integrated the GCC to the market economies. Their capacity to adopt militant assertive postures in this negotiation are consequently blunted.

EMPERICAL EVIDENCES AND HYPOTHESES

Politically the GCC is inspired by the integration model of the EEC and has essentially maintained a pro-West outlook in international affairs. With 16% of worlds natural gas reserves and 52% of world oil reserves, the GCC acquires a strategic importance for the EEC. The volume of trade between the two regions makes the EEC the foremost economic partner of the GCC and vice-versa. Both regions display a high level of homogenity, attach great importance to the stability of their respective regional systems and both pursue the same kind of regional aggregation. This interdependent nature of their relations has an in-built clout which the GCC could exploit. It is the failure to realize and utilize this mutuality of interests that enhances the assymetry in the negotiations. Nevertheless this interdependent nature of their relations is sought to

be consolidated with the proposed two-stage pact. As the pact envisages a framework of cooperation and resolution of conflicting issues, our first hypothesis is validated.

The GCC petrochemicals sector is highly externalised. It lacks indigeneous operating and ancilliary logistics and is dependent on the global sector for technology, marketing, shipping, distribution etc. Almost all the operating units have been built with foreign participation. Joint ventures with established producers appears to solve the problems of market entry. This makes the GCC producers dependent on foreign partners for marketing. The benefits of marketing arrangements incorporated into joint ventures do not bring full advantage to the GCC countries.

GCC units are mostly geared towards production of basic petrochemicals. Their joint venture partners being established producers i.e. vertically and horizontally integrated companies, take advantage of the marketing arrangements to earn profits through transfer-incomes.

The logic of tariff imposition on GCC petrochemicals is that they are low-cost and have a capacity to

distort 'order' in the Common Market. The market price established by the high cost domestic producers are set at a level where adequate profits are realized to operate their plants. The effect of this has been that it restricts growth of demand and slows down the rationalization process in Europe. Therefore by charging established producers (vertically integrated joint venture partners) with marketing their plants' output, the GCC producers are severely limiting their ability to compete using their low cost competitive advantage. To assume full advantage of their competitive products, independent marketing or acquisitions and founding of offshore marketing firms will realise this. Kuwaiti offshore investments at every stage of the pyramidic-structure of vertically integrated firms and the resultant minimal impact of the EEC trade restrictive measures confirm our second hypothesis.

The bargaining leverage of the GCC is proscribed by the techno-feedstock base of their petrochemical units. Most of the units presently operating are based on associated gas-produced with oil. Oil is used (currently on the decline) to power petrochemical plants in the EEC. Lower oil prices cut operating costs and enables high cost European units to be competitive again.

It has been indicated that the European petrochemical industry is seeking other sources for its primary fuels to facilitate the technological restructuring i.e. feedstock substitution and, intra-fuel substitution for energy. This trend erodes the effective leverage an oil embargo the GCC countries may apply. The decline in EECs oil needs (from the GCC) has inhibited the GCCs leverage and substantiates our third hypothesis.

The EECs trade restrictive measures have not impacted all the GCC producers equally. This is because of the different national strategies pursued in developing the sector. Kuwaiti products do not encounter as much hostility in the common market as Saudi's because their domestic ambitions are of unequal size. Moreover, Kuwait has fully integrated its units with the global industry making investments at every level of control and operations. Consequently its interests are more global while Saudi Arabia's appear more parochial.

Kuwaiti offshore acquisitions - of petrochemical units in Europe - prompted partly in reducing problems of selling oil on a non-integrated basis especially those in need of restructuring complicates the restructuring (especially geographical) process.

The divergence of GCC member-countries interests inhibits the crystallization of collective stance in the negotiations and gives credence to our fourth hypothesis.

The weakness imposed by uncoordinated and unintegrated development of the petrochemical sector in the GCC region appears to have caused capacity underutilization.[12] The dependent nature of the GCC petrochemical sector and the protectionist mood in the developed market economies of the EEC and elsewhere call for cooperation and coordination among GCC countries. This will facilitate country specialization, create a common market, vertically and horizontally integrated regional sector and also boost regional trade which is currently restricted.[13]

It would also enable the GCC countries to overcome obstacles before their petrochemicals thereby increasing their negotiating capacity as our fifth hypothesis suggests.

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12 The Middle East, April, 1988, p. 9.

13 According to a local magazine ASWAQ AL KHALEEJ Saudi imports from other GCC countries is less than 2% of its total imports. Those of Kuwait 1.7%, Qatar 3.05% and the UAE 6.69%. Excerpted in OPEC Bulletin (Vienna), March, 1988.

The incentives for establishing a petrochemical industry in the developing countries include import-substitution, export-earnings, industrial growth, food production, health programmes etc. As the petrochemical industry involves huge capital outlays which the private sector in the developing countries cannot mobilize, national governments give full backing to the industry. This adds guarantee to the cooperation commitments of these developing countries.

Cooperation among the developing countries in the petrochemical sector through joint ventures will be in their interest and of the developed countries also. It will restrict inflow of products into the EEC thereby mitigating the glut and help stimulate the economies of all concerned.

With the substantial growth rate of demand in the developing countries, South-South cooperation holds promise of alleviating the problems encountered by the GCC products in the European common market.

REVIEWING ASSOCIATIVE DIPLOMACY

In conclusion an observation needs to be made about 'Associative Diplomacy' carried out between regional institutions. As observed elsewhere,

Associative Diplomacy secures bilateral gains which are transferred into multilateral benefits for the constituent countries.[14] In the case study it appears the international bureaucracy have secured gains with the signing of the first cooperation agreement. These bilateral gains have not been transferred into multilateral benefits as the prolonged impasse has compelled both sides to seek alternative avenues (outside the framework) to reap benefits.

It is an unequal contest between two regional institutions and the Associative Diplomacy served to emphasize their bilateral dependence not to redress assymetry in dependence but to preserve the economic hegemony of the EEC countries.

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14 Saleh A. Al Mani and Salah Al Shirkly, The Euro-Arab Dialogue : A Study in Associative Diplomacy (London, 1983), p. 136.

Chapter IV

Summary And Conclusion

Chapter IV

Over the past two decades the equity base of the contemporary international economic order has been contested along a geopolitical North-South divide. Its endogamous bias manifests most in the increasing concentration of world trade in the developed market economies since the 1950's. The structure of trade among the developed countries indicates the interdependent nature of their economies while their trade relations with the developing countries emphasize the dependency of the latter.[1] The oligopolistic structure of production and exchange in major world sectors has concentrated market power reflected in trade concentration within the developed market economies.[2] The preceding chapters illustrate at a micro-level the bias against the developing countries in the world market for manufactures.

The restricted share of the developing countries in world manufactures trade is due to the combined effect

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1 Exchange among developed countries arises more as an extension of intra-industry trade between countries at a similar stage of economic development whereas trade with the developing countries are largely based on inter-industry specialization.

2 As revealed elsewhere in this study, the OECD countries accounted for 87.2% of global petrochemical production and 91.9% of exports in 1985.

of concentrated market power in oligopolistic firms - and the trade restrictive practices of the developed market economies.

The market power weilded by these oligopolistic transnational corporations (TNCs) derive from their control over investment capital, possession of proprietary technology, their organizational structure and corporate strategies.

The role of TNCs as exporters of investment capital was assigned at Bretton Woods. Post war economic reconstruction enabled competitive firms (especially US firms) to service their foreign markets through local production than exports.[3] This led to a centralized control by TNCs over key sectors of global industry. Through licensing of technology to affiliates an oligopolistic/monopolistic technology market was created. Licensing introduced barriers for new entrants into the technology market and technology competitive industries. The control over modern technology by the TNCs has transformed

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3 Although post war multilateral negotiations sought to promote liberalization, yet a shortage of foreign currency led to import controls in many countries. The desire of many countries to build up indigenous manufacturing capabilities enabled the US firms to service these markets through direct investment.

the sequence of innovation in production and successful export trade.[4] Such companies determine the terms and conditions of transfer of technology between countries in the global economy. The nature of technology transfer is linked with the level of equity participation which varies with the inducement offered by the host country for foreign direct investment i.e. whether it is for rationalized production, import substitution or export promotion.

Through their operations as conglomerates and joint ventures, TNCs increase their leverage and bargaining power vis-a-vis developing countries and determine the market structures faced by exporting countries.

The development strategies of most developing countries is intimately linked with the structure of their external trade. They were not able to produce the type of goods in which trade was increasing fastest i.e. manufactures especially high technology products.

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4 It is observed that over half of the top 200 companies accounting for a third of global GDP in 1982 were based in five countries. Eighty-five per cent of the worlds research and development is undertaken in the same five countries (USA, UK, West Germany, France and Japan). See, Stuart Holland, The Global Economy: From Meso to Macro Economies (London, 1987), p. 261.

Import substitution and export promotion became mechanisms for offsetting their technology lag and for attracting investment capital from abroad. Both strategies increased foreign economic penetration. Joint ventures between TNCs and developing countries have required active involvement of the State in the way of subsidies, tax exemptions etc. Such high-cost facilities could not easily become export-oriented. Where exports are feasible based on advantages in factor endowments, marketing is effected through joint venture partners.[5] Such export products were those against which trade restrictive measures in the industrialized countries where the main markets existed was highest.[6] For example,

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5 As international traders, these TNCs influence price formation in international markets as well as prices received by national producers. Joint ventures between developing countries and TNCs create strengths for the latter by offering salvation for firms within mature industries as petrochemicals. It preempts newer entrants from autonomous integration to become competitors and blunt their ability to retaliate through expansion of their domain. See, Kathryn Rudie Harrigan, "Joint Ventures and Global Strategies", Columbia Journal of World Business (New York), vol. 19, no. 2, p. 10.

6 Value-added downstream activities of the TNCs located in the developed countries (outside primary products producing areas) create captive markets and earn them transfer-incomes by way of intra-firm trade. Besides when developing countries have been able to circumvent the circuit of TNCs restrictions are imposed on their competitive products in industrialized countries through such mechanisms as 'orderly marketing arrangements', 'fair trade', voluntary production/export restraints.

the value of petrochemical exports from the developing countries to the EEC was $ 3,822 million in 1980.[7] Of the total exports, only $ 24 million dollar worth of petrochemicals entered the Common Market under the GSP as indicated by Table 4.1. It is estimated that elimination of tariff measures under the GSP would enhance their exports to the EEC by a margin of $ 351 million. It is thus obvious that developing countries have little scope to expand exports to the developed countries simply by obtaining a larger share of the market through competition.

Multilateral intervention to redress the prevailing imbalances of the contemporary economic order holds little prospects for developing countries as our case study reveals. The strategy of 'differentiation' and 'selectivity' adopted by the EEC in global negotiations all through the 1970's were also successfully applied in the current negotiations. Both were tactics in segmented appeasement to undermine Southern i.e. GCC solidarity.

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7 UNIDO, Tariff and Non-Tariff Measures in the World Trade of Petrochemicals Products (Geneva, 1985), IS 573.

TABLE 4.1

ESTIMATES OF TRADE EFFECTS FROM THE REMOVAL OF POST-TOKYO ROUND TRADE BARRIER (VALUES IN 1980 US DOLLARS)

IMPORTING MARKET	Trade creation from removal of:			Trade diversion a_/		Net trade expansion	
	Tariffs		NTBs b_/				
	Developed countries	Developing countries	All trading partners c_/	Developed countries	Developing countries	Developed countries	Developing countries
European Economic Community d_/	582	351	171	+ 24	- 24	777	327
United States	290	11	51	+ 2	- 2	342	9
Japan	193	52	n.a.	+ 3	- 3	196	49
TOTAL	1 065	414	222	+ 29	- 29	1 315	385

Source: UNCTAD Data Base on Trade Measures

Notes: The results are computed using the UNCTAD Trade Policy Simulation Model (see Appendix I). 'Developed countries' indicates non-preference-receiving countries; 'developing countries' are equivalent to preference-receiving countries.

a_/ Trade diversion: potential gains to non-preference-receiving countries and potential losses to preference-receiving countries. Refers only to elimination of tariff preferences under the GSP. Information on the differential incidences of NTBs in ad valorem terms on developed and developing countries is not available.

b_/ Trade created by the removal of NTBs is under-estimated as it has not been possible to compute ad valorem equivalents for all products and for all countries.

c_/ The estimates are also based on computing the average price disadvantages in the importing country against world supplies as a whole (although there would normally be variations in the price disadvantages against different sources). Accordingly, results are not shown for developed and developing countries. However, an inspection of the NTM coverage in the UNCTAD Data Base suggests that developed countries would be the main beneficiaries of NTB removal. Accordingly in the columns on net trade expansion, the whole gain from NTB removal has been attributed to the developed countries.

d_/ Relates only to external trade of the EEC, and not trade among members of the EEC,

Source : UNIDO , Tarrif and Non-Tarrif Measures in the World Trade of Petrochemical Products, (Geneva1985) p. 12

The disparate and conflicting interests of the GCC countries arising from uncoordinated regional development of the sector has militated against the concretisation of negotiable issues and positions. The resultant stalemate provides the EEC the opportunity to offer 'damage-limitation' concessions which are small measures.[8] Moreover the developing countries including the GCC countries were vulnerable to external pressures because of the structural linkage of the economies with the global economy.[9] The weakness arising from the vulnerability makes acquiescence to the 'damage limitation' measures inevitable.

Collective bargaining has accrued limited benefits for developing countries for other reasons too viz.:

The developing countries have been too obsessed with externalties in redressing the present imbalances. It appears much of their declining share of world trade and marginalisation arose due to the inter-industry nature

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8 The concession given to Saudi Arabia may be viewed in this regard. See, Chapter II of this study and also MEES, vol. 29, no. 10, 16 December, 1985, MEED, vol. 29, no. 51/52, 21 December, 1985, p. 34.

9 About one-forth of the developing countries GDP is realized on the world market. See, Ernest Obminsky, Developing Countries: Theory and Practice of Multilateral Economic Diplomacy (New Delhi, 1987), p. 7,

of their exchange. The absence of sectoral linkages in most developing countries enhance inter-industry transfers and consequently upgrades their dependence on external markets.

The developing countries' demands have been too self-centred. As real interests of the North were threatened by their demands, the tactics of persuasion (imperative since counter-veiling power was absent) was not complemented by provision of trade-offs between issues.

Problems of individual commodity exports wherever, they were ameliorated by specific multilateral action or otherwise, were soon undermined because of the lack of concurrent action on their substitutes.[10] The inversion of the effective order of policy making complicates the negotiating strategies of the group and makes the implementation of issues agreed difficult.[11]

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10 It has been argued elsewhere in the case study that geographical restructuring of the petrochemical industry should be augmented by restraints on off-shore acquisitions of naphtha-based units by GCC, see, Chapter III.

11 The international bureaucracy under the aegis of the regional institutions who carry out these negotiations have institutional interests to protect at home and are therefore not competent to satisfy a composite constituency. Moreover its power to establish positions that conflicted with national interests are limited. This is amply revealed by the positions of Claude Cheysson the EC Commissioner for North-South Dialogue. Refer to footnote 45 of Chapter II of this study.

It is noted that Southern positions tend to be created from top down than bottom up i.e. by diplomats and international bureaucrats rather than Ministers and experts from host governments.[12]

To alter the power assymetries of the present order necessitates a redressal of the uneven dependence of the two blocs on their inter-regional economic exchange. Intra trade of the OECD amounts to 70% of total commerce of its members while developing countries took only 22.5% of their own exports. As most of the exports of developing countries are carried out by TNCs certain power advantages are conferred. This anomally can be rectified to the extent that developing countries reduce their production and exchange with developed world through increased South-South exchange.[13]

In conclusion it may be inferred that the pursuit of industrialization in developing countries is defined by the present global industrial structure. The facade

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12 Robert Rothsetin, "Is the North-South Dialogue Worth Saving", Third World Quarterly (London) vol. 6, no. 1, January, 1984, p. 169.

13 Our case study has revealed that with the relocation of markets for GCC petrochemicals in developing countries especially in the Far East, the primacy of the EEC market as well irritants arising from the trade restrictive measures have been undermined.

of autonomous industrialization conceived in the purchase of plant, technology etc. is undermined by the nature of the market.

The North-South Dialogue presumed by developing countries as an avenue for redressing the imbalances, hinges excessively on externalties. Much effort has not been geared towards internal re-structuring of the developing countries economies to promote sectoral linkages. An internalized development process bestows certain power which can be employed to change the current external power imbalance. The North-South Dialogue cannot fulfil all the aspirations of the developing countries as there are limits beyond which changes can be effected.

BIBLIOGRAPHY

BIBLIOGRAPHY

Primary Sources:

Directorate General, Commission of the European Communities, The European Community and the Gulf Cooperati(Council, Europe Information, External Relations (Brussels), 80/85, October, 1985.

Organization of Arab Petroleum Exporting Countries (OAPEC), Secretary General's Tenth Annual Report, 1983 (Kuwait, 1984).

OAPEC, Secretary General's Eleventh Annual Report, 1984 (Kuwait, 1985).

_____, Secretary General's Twelfth Annual Report, 1985 (Kuwait, 1986).

_____, Secretary General's Thirteenth Annual Report, 1986 (Kuwait, 1987).

United Nations, Transnational Corporations in World Development (New York, UN, 1988).

United Nations Centre for Transnational Corporations (UNCTC), Transnational Corporations and Non-Fuel Primary Commodities in Developing Countries (New York: UNCTC, 1987), ST/CTC/ 64.

UNCTAD, Operations and Effects of the GSP, TD/B/C. S/100, 1985.

_____, Protectionism and Structural Adjustment, UNCTAD Trade and Development, 34th session, 2nd part, Geneva, T.D/B/1161, 25th April, 1988.

United Nations Industrial Development Organization (UNIDO), Developments in the Petrochemical Industries since 1964 and their Interest to Developing Countries, ID/WG 34/3.

UNIDO, Current World Situation in Petrochemicals, IS/PC 126, 14 November, 1985.

_____, Emerging Petrochemicals Technology : Implications for Developing Countries, IS 350, 29th October, 1982.

_____, Industry and Development: Global Report, 1987 (Vienna, 1987).

_____, International Trade and the Marketing of Petrochemicals, Third Consultation on the Petrochemical Industry, Vienna Austria, 2-6, December, 1985, PC 128, 21 November, 1985.

_____, Long-term Arrangements for the Development of Petrochemical Industry in Developing Countries ID/WG 44812.

_____, Long-term Prospects of Industrial Development in the United Arab Emirates (Fifth Industrial Development Conference for Arab States, Algiers, Algeria) IC IS 121, 21 September, 1979.

_____, New Trends in Petrochemical Research and Development, IS/576, 15 November, 1985.

_____, Qatar Industrial Development Review Series, PPD 75, 6th August, 1988.

_____, Recent Developments in the Field of Basic Petrochemicals and Their Special Interest for Developing Countries (by Leprince P., Mercier C., and Grinand, M.), ID/WG/34/16.

_____, Report of the First Consultation Meeting on the Petrochemical Industry, Mexico City, 12-16 March, 1979, ID/WG. 291/9/Rev., 22 March, 1979.

_____, Saudi Arabi, Industrial Development Review Series, PPD 71, 1986.

UNIDO, Second World-wide Study on Petrochemical Industry: Process of Restructuring, ID/WG. 336/3 and Add. 1 May, 1981.

_____, Survey and Analysis of Joint Venture Arrangements in the Petrochemical Industry through Consultation on the Petrochemical Industry, Vienna, Austria, 2-6 December, 1985, ID/WG 4.48/4, 10 October, 1985.

_____, The Development of Downstream Petrochemical Industries in Developing Countries, ID/WG/ 448/3.

_____, The Development of Industrial Information Systems in the Arab Region: A Review of Past Experienc Needs and Trends, ID/WG 450/2.

_____, The Petrochemical Industry in Developing Countries: Prospects and Strategies, Sectoral Studies Series, No. 20, IS/572, 24 October, 1985.

_____, The Petrochemical Industry: Perspective for Industrial Development in the Second U.N. Derada (New York, 1973).

_____, The Petrochemical Industry: The Sector in Figures, Sectoral Studies Series, No. 20, vol. II, 15572/Add. 1, 28 October, 1985.

_____, Tariff and Non-Tariff Measures in the World Trade of Petrochemicals Products (prepared by the UNCTAD Secretariat for UNIDO), 37/IS 573, 25 October, 1985.

_____, Transport Costs for Shipping Petro-Chemicals, 1975-85, PL 49, 20 July, 1981.

_____, World Demand for Petrochemical Products and the emergence of New Producers from the Hydrocarbon Rich Countries, Sectoral Studies Series, No. 9, IS/427, 19 December, 1983.

UNIDO, World Demand for Petrochemicals Products and Arab Petrochemical Industry, UNIDO/20/IS/480, 24 July, 1984.

UNIDO/OPEC Fund, Opportunities for Cooperation Among the Developing Countries for the Establishment of the Petrochemical Industry, IS 376, 16 March, 1983.

Secondary Sources:

Books:

Ballance, R., Ansari, J. and Singer, H., The International Economy and Industrial Development: Trade and Investment in the Third World (U.K., 1982).

Bhagwati, Jagdish, The New International Economic Order: The North-South Dialogue (Cambridge: M.I.T., 1977).

_____, Dependence and Interdependence (New Delhi: Oxford University Press, 1985).

_____ and Ruggie Genard, John, Power, Passions and Purpose: Prospects for North-South Dialogue (London: M.I.T., 1984).

Blake, David H., and Walters, Robert S., The Politics of Global Economic Relations (Engleword Cliffs N.J: Prentice Hall, 1987).

Cassonl, Mark, The Firm and the Market (Oxford: Basil Blackwell, 1987).

Creasey, Pauline, Structural Adjustment in Europe: Public Policies and the Creation of a European Industrial Base (London: Frances Pinter, 1987).

Ghosh, Pradip and Ghosh, Dilip, International Trade and World Development (Wesport: Greenwood Press, 1984).

Gueicioueur, Adda (ed.), The Problems of Arab Economic Development and Integration (Boulder: Westview, 1984).

Helpman, Eltham an and Kingman Paul. R., Market Structure and Foreign Trade (London: MIT Press, 1985).

Hoda, A., Developing Countries in the International Trading System (New Delhi: Allied Publishers, 1987).

Holland, Stuart, The Global Economy: From Micro to Macro Economics (London: Wernfeld & Nicolson, 1987).

Jones, A. Charles, The North-South Dialogue : A Brief History (London: Frances Printers, 1983).

Kausmann, Johan, Conference Diplomacy: An Introductory Analysis (Oceania Publications, New York, 1970).

Khan, Kameel, I.F. (ed.), Petroleum Resources and Development (London: Belharan, 1987).

Greenway, David (ed.), Economic Development and International Trade (New York: St. Martins Press, 1988).

Lall, Arthur, Modern International Negotiation (New York: Columbia University Press, 1966).

Mani Al, Saleh and Shaikly, Al Salah, Euro-Arab Dialogue: A Study in Associative Diplomacy (London: Frances Pinter, 1982).

Marwan, Fayad and Homa, Motamen, Economics of the Petrochemical Industry (London: Frances Pinter, 1986).

Masood, Rashid, Petrochemical Industry in Saudi Arabia: A Self Reliant or Dependent Developnent? (Ph.D. thesis, Jawaharlal Nehru University, New Delhi, 1986).

Niblock, T., and Lawless, R. (ed.), Prospects for the World Oil Industry (London, Croom Helm, 1985).

Peet, Richard (ed.), International Capitalism and Industrial Restructuring (Boston: Allen & Unwin, 1987).

Sarvant, Karl, P., The Group of 77: Evolution, Structure, Organization (New York: Oceania Publishers, 1981).

Sharif, Walid, The Arab Gulf States and Japan (London: Croom Helm, 1984).

Spero Joan, Edeleman, The Politics of International Economic Relations (London: George Allen, 1977).

Stopford, John and Dunning, John, Multinationals: Company Performance and Global Trends (London: Macmillan, 1983).

Turner, Louis and Bedore, James, Middle East Industrialization: A Study of Saudi and Iranian Downstream Investment (England: Saxon House, 1979).

_____ and Mc Mullen Neil, The Newly Industrializing Countries: Trade and Adjustment (George Allen & Unwin, 1982).

Tussie, Diana, The Less Developed Countries and the World Trading System: A Challenge to GATT (London: Frances Pinter, 1987).

Weiss, Thomas, G., Multilateral Development Diplomacy in UNCTAD : The Lessons of Negotiations, 1964-84 (London, Macmillan, 1986).

Wilson, P.R.D., International Economies: Theory, Evidence and Practice (Whealsherf Books, Brighton, Sussex, 1986).

Zartman, William (ed.), Positive Sum: Improving North-South Negotiations (Transaction Books, New Brunowick, 1987).

_____, The Negotiation Process: Theories and Applications (Sage Publications, Beverley Hills, 1978).

Articles in Periodicals:

"A Cost-Effective Downstream Could Successfully Handle A Crude Oil Price Collapse", Petroleum Review (London), vol. 39, no. 467, December, 1985.

"An Uncertain Future for European Chemicals", European Economic News (Survey), vol. 50, no. 1328, 13 June, 1988, pp. 18-20.

"Arab Gas : OAPEC Producers Combat Waste", Middle East Economic Digest (MEED)(London), vol. 29, no. 19, 10 May, 1985, p. 62.

Bouri, El Wabbi, "The Role of Petroleum in the North-South Dialogue", OAPEC Bulletin, Supplement, (Kuwait), January, 1985.

"Brussels Plays Down the Arab Refinery Challenge", MEED (London), vol. 29, no. 6, 8 February, 1985, p. 3.

"Cefic Making the Case for Chemicals", European Chemical News, vol. 48, no. 1258, 19 January, 1987, pp. 84, 88.

"Capacity Expansions Could Reverse Fortunes", European Chemical News, vol. 49, no. 1303, 7 December, 1987, p. 22.

"Capital Investments Total $ 10.66 billion at End of 1984", Middle East Economic Survey (MEES),(Nicosia), vol. 28, no. 49, 16 September, 1985.

"Competition Policy in Recession: Crisis Cartels", OECD Observer (Paris), no. 101, January, 1982, pp. 29-31.

"Costs and Benefits of Protection", OECD Observer, no. 134, May, 1985.

"Downstream Drive: The Challenge for the West", The Middle East, no. 124, February, 1985, pp. 11-14.

"Downstream Without a Paddle", Economist (London), vol. 284, 3 July, 1982, pp. 70-71.

"Dynamics of Trade in Petroleum Refined Products Between GCC and Western Europe", OAPEC Bulletin, October, 1985, pp. 9-15.

"East-Bloc Exports a Major Threat to West European Chemical Profitability", European Chemical News, vol. 30, no. 932, 7 April, 1980, p. 14.

"EC Foreign Ministers Postpone Decision on Free Trade Pact with GCC", Middle East Economic Survey, vol. 31, no. 3, 26 October, 1987.

"EC Levies Anti-Dumping Duties on Urea, Imports from Arab and Other Countries", MEES, vol. 30, no. 32, 18 May, 1987.

"EC to Offer Trade Pact to GCC by End of 1987", MEES, vol. 31, no. 8, 30 November, 1987.

"EC Set Definitive Urea Duties for Saudi, Libya", European Chemical News, vol. 40, no. 1300, 16 November, 1987, p. 10.

"EC Slaps Duty on Polyethylene", MEED, vol. 29, no. 31, 3 August, 1985, pp. 19, 44.

"EC Warned Against Duties on Petrochem Imports", Oil and Gas Journal (Tulsa), vol. 87, no. 1, 21 January, 1987, p. 17.

"EEC Clamps Down", MEED, vol. 30, no. 48, 29 November, 1986, p. 2.

"EEC Commitment on Gulf Trade Pact", European Chemical News, vol. 49, no. 1302, 30 November, 1987, p. 6.

"EEC Considering Full Scale Negotiations with GCC", MEES, vol. 2, no. 23, 18 March, 1985.

"EEC Dismisses Product Tariffs", MEED, vol. 29, no. 25, 22 June, 1985, p. 2.

"EEC-GCC Deal Under Threat", The Middle East, no. 131, September, 1985, p. 28.

"EEC Gets Tough", MEED, vol. 30, no. 49, 6 December, 1986, p. 2.

"EEC Imposes Tariff on Saudi and Kuwaiti Urea", MEES, vol. 29, no. 21, 3 March, 1986.

"EEC Imposes Tariffs on Saudi Ethylene Glycol", MEES, vol. 29, no. 10, 16 December, 1985.

"EEC Imposes 13% Tariff on Bahraini Methanol", MEES, vol. 29, no. 35, 9 June, 1986.

"EEC Producers Oppose Free Trade with Gulf States", European Chemical News, vol. 49, no. 1291, 14 September, 1987, p. 4.

"EEC Replies to Sabic Warning Against European Protectionism" MEES, vol. 28, no. 16, 28 January, 1985.

"EEC Still Running Big Trade Surplus with Gulf", European Chemical News, vol. 49, no. 1304, 14 December, 1987, p. 15.

"EEC Struggles with Protectionism", MEED, vol. 29, no. 47, 23 November, 1985, p. 8.

"EEC Tariff on Saudi Glycol Delayed", MEES, vol. 29, no. 9, 9 December, 1985.

"EEC Tariffs Strain Gulf-European Relations", MEES, vol. 28, no. 49, 16 September, 1985.

"EEC to Apply Quota System on 1987 Gulf Petrochemical Imports", MEES, vol. 30, no. 8, 1 December, 1986.

"EEC Warned on Unfair Tariffs", MEED, vol. 29, no. 46, 16 November, 1985, p. 2.

"Ethylene Supply Short-fall Sends Prices Souring", European Chemical News, vol. 51, no. 1332, 11 July, 1988, p. 8.

"Euro-Gulf Pact Likely to be Signed This Year", OPEC Bulletin (Vienna), April, 1986.

"Euro-Unions Tackle "Threat" of Gulf Chemicals", The Middle East (London), no. 107, September 1983, pp. 55-56.

"European Chemicals: Shake, Heat, Squeaky-Pop", Economist, 16 July, 1988.

"Europe Edges Closer to the Gulf", The Middle East, no. 127, May, 1985, p. 28.

"European Commission Recommends Liberal Policy on Products Imports", MEES, vol. 28, no. 43, 18 March, 1985.

"Foreign Firms Drive US Acquisitions Boom", European Chemical News, Chemscope, June, 1987, pp. 20, 22, 24.

"Freight Formulas for Saudi Product Exports", MEES, vol. 28, no. 5, 15 November, 1984.

"GATT Would Sanction EEC/GCC Free Trade Zone", European Chemical News, vol. 49, no. 1295, 12 October, 1987, p. 18 .

"GCC Disappointed at EC Quotas on Petrochemicals", MEES, vol. 30, no. 10, 15 December, 1986.

"GCC-EC Sign First Stage Cooperation Accord", MEES, vol. 31, no. 37, 20 June, 1988.

"GCC-EC Initial First Stage Cooperation Accord", MEES, vol. 31, no. 26, 4 April, 1988.

"GCC-EEC Trade Pact is Still Evasive", MEES, vol. 31, no. 1, 12 October, 1987.

"GCC Official Optimistic About Improved EC Offer for Trade Accord with EC", MEES, vol. 31, no.7, 23 November, 1987.

"GCC Protests Against EECs Imposition of Duties on Methanol Imports from Saudi Arabia", MEES, vol. 27, no. 45, 20 August, 1984.

"GCC Rebukes EEC for Breaking Agreement Not to Impose Tariff", MEES, vol. 29, no. 16, 27 January, 1986.

"Grunewald Emerges As Major Buyer of Products from Petromin", MEES, vol. 28, no. 28, 22 April, 1985.

Guinet, Jean, "The Petrochemical Industry: An Unfinished Adjustment Process", OECD Observer (Paris), no. 133, March, 1985, pp. 6-10.

Harrigan, Kathryn Rudie, "Joint Ventures and Global Strategies", Columbia Journal of World Business (New York), vol. 19, no. 2, pp. 7-16.

"Have the Golden Days Arrived at Last for Petrochemicals", European Chemical News, Chemscope, December, 1987, pp. 4-6, 8-9.

"Highlights of the OECD Economic Outlook", OECD Observer, no. 141, July, 1986, pp. 32-38.

Interview with Sheik Yamani, MEES, vol. 28, no. 34, 3 June, 1985.

Interview with Sabic Chairman, MEES, vol. 27, no. 35, 11 June, 1984.

Jarbour Al. Abdel Aziz, "Sabic Experience in Creating Operating and Marketing Petrochemicals", OAPEC Bulletin, February, 1986.

Jenkins, Gilbert, "Developments in the Oil Refining and Petrochemical Industries", OPEC Bulletin, June/July, 1988, pp. 11-15.

Kuwaiz El Abdullah, "Arab Oil Refining, Dynamics of Trade in Petroleum Refined Products Between GCC and Western Europe, OAPEC Bulletin, October, 1985, pp. 9-16.

"Kuwait: Pumping the Profits Downstream", South (London), no. 94, August 1988, p. 51.

"Kuwait Changes Talk", The Middle East, no. 141, July, 1986.

"Kuwait Go Ahead for $ 140 million PP Plant Plans MTBE Unit", European Chemical News, vol. 51, no. 1352, 5 December, 1988, p. 28.

"KPI Looks to Far East and US for Further Expansion", MEES, vol. 31, no. 20, 22 February, 1988.

"KPC Signs Products Deals with Third World Countries", MEES, vol. 30, no. 26, 6 April, 1987.

"KPC Acquires Belgian Service Stations for Elf/Aquitaine", MEES, vol. 28, no. 44, 12 August, 1985.

"Kuwait Imposes Protective Tariff on Imports of Lube Oils", MEES, vol. 27, no. 46, 27 August, 1984.

"KPC Objectives in the Downstream", MEES, vol. 27, no. 45, 20 August, 1984.

"Lower Olefins - Can There Ever Be Global Pricing", European Chemical News, vol. 51, no. 1345, 17 October, 1985, pp. 19-20.

Mureddu, Guiseppe, "Experiences of Regional Integration in the Third World", Political Internazionale (Rome), vol. 3, no. 2, Fall, 1984, pp. 21-26.

Mehta, K., "International Energy Development: An Overview of the Petrochemical Sector in the European Community", OAPEC Bulletin, March, 1986, pp. 18-27.

Novati, Giampaolo, Calchi, "The EEC and the Gulf Cooperation Council", Political Internazionale, vol. 4, no. 1, Spring, 1985, pp. 110-18.

"North's Rising Protectionism, Good for South-South Cooperation", OPEC Bulletin, March, 1987.

"New Methanol Producers After World Market", OPEC Bulletin, November, 1985.

Nurul, Islam, "Economic Interdependence Between Rich and Poor Nations", Third World Quarterly, (London), vol. 3, no. 2, April, 1981, pp. 230-50.

"New Quota System Makes GSP Stricter for Saudi Chemical Exports", European Chemical News, vol. 47, no. 1255, 15 December, 1986, p. 18.

"New GSP Rules to Hit Chemical Imports from Gulf", European Chemical News, vol. 47, no. 1253, 1 December, 1986, p. 9.

"No GCC Tariffs on EEC Imports", MEES, vol. 29, no. 37, 23 June, 1986.

"Negotiations with US on Petrochemical Exports to Start in January 1986", MEES, vol. 29, no. 3, 28 October, 1985.

"Negotiations with EEC for Comprehensive Cooperation Agreement", MEES, vol. 29, no. 2, 21 October, 1985.

"OAPEC/EC High Level Meeting", Report of Meeting at Kuwait 12-13 December, 1984, OAPEC Bulletin, January, 1985, p. 6.

"OECD Stresses Need to Accommodate New Petrochemical Producers", MEES, vol. 28, no. 25, 1 April, 1985.

"Petrochemical Talks Open Out", MEED, vol. 29, no. 27, 6 July, 1985, p. 2.

"P/E Glut in Europe Forces Differentiation", European Chemical News, vol. 47, no. 1253, 1 December, 1986, p. 14.

"Polyethylene : The Global Realities in the 1988s", MEES, vol. 27, no. 34, 4 June, 1984.

"Profits Look Good if Building is Restricted", European Chemical News, vol. 51, no. 1334, 25 July, 1988, p. 12.

"Prospects for the Gulf", MERIP Reports (Washington), no. 132, vol. 15, May, 1985, pp. 3-6.

"Pricing Saudi Arabian Exports of Refined Products and LPG", Petroleum Review (London), vol. 39, no. 456, January, 1985.

Ross, James, M.D., "Downstream Oil Back to Square One", Paper presented at the 9th Oxford Energy Seminar, August 31 - 11 September, Oxford, U.K., MEES, vol. 30, no. 49, 14 September, 1987.

Rothstein Robert, "Is the North-South Dialogue Worth Saving", Third World Quarterly, vol. 6, no. 1, January, 1984, pp. 155-182.

"QAFCO Plans to Construct New Ammonia Plant", MEES, vol. 31, no. 30, 22 February, 1988.

"Sabic Criticizes EEC Tariff on Polyethylene", MEES, vol. 28, no. 44, 12 August, 1985.

"Sabic Enters World of Petrochemicals", Petroleum Review, vol. 39, no. 458, March, 1985, p. 4.

"Sabic Peps Up Saudi Industry", MEED, vol. 30, no. 41, 11 October, 1986, p. 30.

"Sabic Puts a Brave Face on Short-term Setback", Special Report, MEED (London), May, 1986, pp. 24-29.

"Sabic Quadruples Profits in 1987", MEES, vol. 31, no. 20, 22 February, 1988.

"Sabic Slams EEC Tariffs", MEED, vol. 29, no. 32, 10 August, 1985, pp. 36-37.

"Sabic Slams Quota Phase Out", European Chemical News, vol. 51, no. 1354, 19/26 December, 1988, p. 6.

"Saudi Arabia: A Special Report", The Middle East, no. 135, January, 1986, p. 26.

"Saudi Arabia and Texaco Sign Letter of Intent on 50-50 vs Downstream Venture", MEES, vol. 31, no. 37, 20 June, 1988.

"Saudi Arabia Calls for Cancellation of EEC Tariffs on Methanol", MEES, vol. 27, no. 51, 1 October, 1984.

"Saudi Arabia: Planning for the 1990's", The Middle East, no. 125, March, 1985, p. 43.

"Saudi : The Drive to Industrialization", special survey, The Middle East, no. 114, April, 1984.

"Saudi Arabia : Special Survey", The Middle East, no. 165, July, 1988, pp. 47-50.

"Saudi Arabian Government Raises Selected Customs Duties", MEES, vol. 28, no. 25, 1 April, 1985.

"Saudi Arabian Oil Policy : Restructuring at Home and Downstream Integration Overseas", MEES, vol. 31, no. 31, 9 May, 1988, p. 9-14.

"Saudi Arabia's Petrochemicals Come Out Fighting", MEED, vol. 29, no. 47, 23 November, 1985, pp. 7-11.

"Saudi Arabia's Policy on Refined Product Sales", MEES, vol. 28, no. 35, 10 June, 1985.

"Saudi Arabia Warns Against European Protectionism", MEES, vol. 28, no. 15, 21 January, 1985.

"Saudis Oppose GSP Ruling", European Chemical News, vol. 51, no. 1338, 5 September, 1988, p. 10.

"Saudi Petrochemicals : The Potential for Conflict", MEED, vol. 29, no. 1, 4 January, 1985, p. 23.

"Saudis Threaten EEC Exports", MEED, vol. 29, no. 32, 10 August, 1985, p. 36.

"Sharing the Burden of Middle East Oil Imports", MEED, vol. 29, no. 28, 13 July, 1985, pp. 32-38.

Shawi, Al Khalid, "The Art of Negotiation and the Arab Gulf States' Ability to Negotiate the Export of Their Petrochemical Products", OAPEC Bulletin, July, 1985, pp. 8-16.

Smith, Tony, Changing Configurations of Power in North-South Relations Since 1945", International Organization (Cambridge), vol. 31, no. 1, Summer, 1977, pp. 1-28.

"Soviet Chemical Industry to Accelerate Growth", European Chemical News, vol. 49, no. 1293, 28 September, 1987, pp. 13-14.

"Speculation Mounts As Don Buys into Montedison", European Chemical News, vol. 50, no. 1320, 18 August, 1986, p. 6.

"Statistics Back Call for Gulf-EEC Trade Pact", European Chemical News, vol. 52, no. 1356, 16 January, 1989, p. 15.

"Taher Spells Out Saudi Arabia's New Product Pricing System", MEES, vol. 29, no. 7, 25 November, 1985.

"Tariff Issue Could Delay GCC-EEC First Stage Accord", MEES, vol. 31, no. 6, 25 January, 1988.

"Tariff Talks: A Question of Priorities", European Chemical News, Chemscope, April, 1987, pp. 4-5.

Taylor, Alan R., "The Euro-Arab Dialogue: Quest for An Inter-regional Partnership", Middle East Journal (Washington), vol. 32, no. 1, Autumn, 1978, pp. 429-43.

"The Case for Saudi Petrochemicals", MEED, vol. 29, no. 4, 25 January, 1985, pp. 31-33.

"The Gulf Cooperation Council", special feature, The Middle East, no. 162, April, 1988, pp. 9-14.

"The Integration of Petrochemical Industry in the Arab Countries", MEES, vol. 29, no. 20, 24 February, 1986.

"The Long Slow Haul to a Petrochemicals Deal", The Middle East, no. 163, May, 1988, pp. 29-30.

"The Petrochemical Industry: Outlook to 1985", OECD Observer, no. 97, March, 1979, pp. 8-9.

"The Petrochemical Test Case", The Middle East, no. 162, April, 1988, pp. 13-14.

"UK Chemical Industry Lags Behind Competitors", European Chemical News, vol. 47, no. 1255, 15 December, 1986. p. 18.

"UK Petrochemical Majors Attack Dow Ethane Cracker Project", European Chemical News, vol. 34, no. 934, 21 April, 1980, p. 4.

"US Chemical Sales To Rise But at Slower Pace", European Chemical News, vol. 36, no. 977, 22 April, 1981, p. 15.

Wattari, Ali A.A., "Arab Refining Industries", MEES, vol. 31, no. 26, 4 April, 1988.

_____, "OAPEC: One Means of Cooperation", OAPEC Bulletin, November, 1984.

_____, "Contracting and Implementing Downstream Petroleum Projects", OAPEC Bulletin, vol. 8, no. 1, January 1982, pp. 26-28.

_____, "The Role of Downstream Industries in Arab Economic Integration", OAPEC Bulletin, February, 1988.

"What Future for Middle East Gas", The Middle East, no. 113, March, 1984, pp. 34-35.

"World Tanker Survey: Towards a Better Balance", Petroleum Economist (London), vol. 55, no. 4, April, 1988, pp. 117-19.

"Zamil Says EC More Understanding of GCC Position", MEES, vol. 31, no. 2, 19 October, 1987.

Newspapers:

Egyptian Gazette (Cairo)

Financial Times (London)

Hindu (New Delhi)

Indian Express (New Delhi)

International Herald Tribune (Hongkong)

Kuwait Times

Saudi Gazette (Jeddah)

Times of India (New Delhi).

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