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Outline of the world Petroleum Situation as per 1970

part one: framework of world problems

- 1.1. raw materials, shift in demand pattern, winter-summer
shift in supply pattern, Africa, Near East
mining, shift to politically stable areas, Australia, Canada, Indonesia,
Brasil.
- 1.2. agriculture
yield increase: India Pakistan
wheat 34% 7%
rice 40% 22%
Mexico wheat increase since 1944 6 ×
E. Borlaugh, Nobel price speech: world food crisis delayed for 30 years.
- 1.3. environment, world as finite environment, no outside resources
- 1.4. world population mid 1970 abt. 3,600 Millions
population as a whole will double within 35 years
developed countries will double within 70 years
developing countries will double within 30 years

part two: world petroleum situation

2.1. basic data

	population	oil consumption	oil production
Eurasia			
W Europe	9.9%	<u>26.7%</u>	0.7%
USSR/China	<u>31.5</u>	<u>14.6</u>	16.8
Near East	2.9	2.4	<u>29.5</u>
Mid/Far East	<u>31.7</u>	13.5	3.0
N America	6.3	<u>35.2</u>	<u>25.8</u>
M/S America	7.9	5.8	<u>11.5</u>
Africa	9.8	1.8	12.7
Total	Mill. 3,630	Mill. 2,268	Mill. 2,333

The threefold discrepancy between population maximum and demand-maximum and production maximum is one of the essential features of the present world oil situation (in the above table the respective maxima are underlined).

- 2.2. major features in modern exploration
Cenozoic exploration
Far East, classical folding, miocene

Australia, fault traps, marginal basins, eocene — lower cretaceous
Adriatic sea, pliocene gliding

Mesozoic exploration

W Africa, continental slope, salt formation, lower cretaceous

Egypt, cratonic fault traps, lower cretaceous-lower tertiary

Andes foreland, classical folding-strat. traps, cretaceous

Palaeozoic exploration

North sea, cratonic undulations and tertiary basins

Alaska, deep seated foreland structures, devonian

2.3. U S S R situation

development of production

1946: oil 21.7 mill/T, gas 4 mrd m³

1968: oil 300 mill/T, gas 198 mrd m³

development of production regions

classical Baku, 1870/1920, 97% of total production

Tertiary/Mesozoic Structures, exploration continues

“second” Baku since 1930, west Ural-Volga region

1968 180 mill. T/y

carboniferous basins, all types of structures

biggest oil province, abt 500 fields

“third” Baku since 1965, western Siberia

lower cretaceous to lower tertiary basin,

sedimentary thickness 2—7 km.

production 1970 30 Mill. T, estimate 1980 230 Mill. T

other major exploration-production provinces

Timan-Pechora, Palaeozoic, 33 fields in operation

Caspi-Taschkent, mesozoic gas province

Pre Caspi depression (N of lake Caspi)

deepest part of european platform, 15—19 km. sediment

salt structures

Baku-Turkmenistan, permian to pliocene structures

marine exploration

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Outline of the Sea Floor Geology as per 1970

part one: continental shelf and continental slope

1.1. marine geology, not oceanography

replacing old theories: permanence of oceans, C. DIENER, 1890

continental drift, A. WEGENER, 1920

1.2. general setting:

coastal plain