

Super records of financial status
byll but report & activities

Send publications to non-members

Five year plan: most a Antarctic project.

Toni: Invaly Foundation

Gulbenkian: Training programme for
perhaps several participants

prepare short version of films

Three World Foundation

South.

Phone student! do: plan ad - announcements -

Shell

(9)

problems of the Economic zone and the need
for reconciling national and international

Some points about the members

For the first part - a separate paper.

For the second part - Foundation
of the Bank; the program of
the bank; the program of
the bank.

paper that was of the

Third World Foundation

2000

Foundation; or: for the -

2000

Vi. Review add: relation with local government
under (9)

✓ 2. minutes adopted

✓ 3 -

✓ 4 -

Marie: interplay with many organizations, strengthening
① of managerial infrastructure.

② relation with agencies.

100 excellent ideas

94 before national delivery for out active
link with 4-6.

Special session a Marie view:
Report: - Metz = o.k. too hard.

Apice critical in disasters, most vulnerable
✓ in ocean affairs, special arrangements
for Apice is needed.

Max: Falkland paper. See Byer's book before
in
film?

Send film to Marie

Follow up on distribution - with UNESCO

E. also 04!

Max: Depositary Libraries

Max UNU

Goals: formal relations very important.

UNESCO: formal letter

UNIDO: in 101 for training.

Max advance planning of Budget

UNU follow up!

Max: Moore: should be included in PIA XIV
also Butler, & Lander

follow up on ECESCO

Goals: policy making in dev. countries = weaker point
if need strong support in this. Techniques are
L available.

the be one PIA cover to develop to that.

Max: institutional requirements and policy making
for a future PIA. Then feed into C programmes

Town experience might be that one for that.

- ✓ 01 new order system
 - 2 regional infrastructure
 - 3 national infrastructure
- policy making.

Conceivable a medium-level state; India, Algeria, etc.

- ✓ Old part: 1 through L.O.S. - particularly through involvement of Dev. Councils

General attitude:

Chance of radical reform would be 8 years.

May be no conference be called, have on food

- ✓ Work of Prog. Com. at that time role of dev. Councils will be even more important.

Restructuring of Gov. system

Make sure dev. Councils are ready next time.

Task on 5: we must move forward to formal relationship - perhaps not formal approval; not memoranda and activities.

new paper WNU.

relationship: we don't want to complete but do

1000 - 101

Merge into UN. Dr. Singh of Sec. Gen. It was
able to give solid financial basis. Input of Sweden,
Soviet Union, et. Scholensky basis.

end 10th May 1967.

There is only one type of UGC. Very severe. Active
participate, and very vocal. Environmental organization have
a hard time.

Contract of seminar.

P.M. Send report to Agencies

let them see. They are now considering their budget.

Board agreed. Concept of Trans-Action Council

UNITAR - Max = Liaison.

CPPS South Pacific Latin American

Ambassador Bacula

Yare Economic Commission keep in touch - Regional Banks

OAU - OAS - ESCAP meeting a Sept. 5

Ad. Arab Meeting on September in Oc

17-22 September: check with Harroky

ECLA = ~~ECLAC~~

Crech: honorary members: formed by all
previous members to
Council & individual basis

Animals : the per May stage

- holding tanks
- capture young (mullet, shrimp, eel)
- capture pregnant female.
- control reproduction cycle.

Substrate spawning

feedstuff : 2 schools

fish veterinary medicine; anaesthetic release!

techniques for precision, conservation, transport of
eggs, larvae, fingerlings

transplants of species; acclimatization, hybridization

breeds p. 21

what kinds?

wide range. Preferred qualities:

- fast growth
- resistance to disease
- adaptability to environment.
- reproduction & capture

Plant: only few species fully domesticated - necessary?
abundance of wild. Thousands of species. Fast growth

No one knows total quantity

Red algae 2,610,000 tons/yr
brown 14,600,000

400,000 tons total prod.

4 domesticated species	Porphyra	Japan
	Eucheuma	Phil
	Laminaria	China
	Undaria	Japan

Three stages of development:

Prudent management of natural stocks

Manipulation of environment (substratum; fertilization; temperature, light)

Control of reproductive process: quantity, quality, selected breeding

→ bioengineering

Area: food - industry - pharmaceutical. NEW USES

Micro food: spirulina.

WIDE interest - because of NORK!

Extraction of energy from bio mass, p. 18

2. biological control of pollution

extraction of heavy metals

algae extract strontium 92

renewable farms. Ostrich farming / ostrich

pattern: species with species

1. Importance - anthropogenic. Growth: - 6% - IASA

2. We learn from you

Indonesia

birds - China -

polybrass - Biodika. + World Science.

3 7 reasons.

1. More food needed

2. Space. Asia needs 2 small hectars
but 20 million more available

3. Three dimensions. Polyculture

4. Lower cost of protein.

from fish = $\frac{1}{2}$ heq = $\frac{1}{3}$ perc
less amenable.

5. Climate

but

6. energy intensive: cost of fuel

7. Loss of 6 deg: - ^{Ferrous is} Feper.

Culture

1. Known variety and quality
2. Harvest at optimum time
3. Can influence markets
4. Area measurable
5. Site dependent
6. High potential for ~~the~~ biotechnology and engineering improvement

Fisley

1. unknown until caught
2. Harvested when catchable
3. open to market influence
4. area uncertain value
5. Relatively mobile
6. Potential of new technology limited.

Agriculture Economics

193 E

IDRC

Options for closure

1. Scientific - Cooper. — needed for new science of ocean management

2. History:

two roots:

① technological revolution

"marine revolution" : three major aspects

② revolution in international relations

Maltese initiative: Ocean for top

Seabed → ocean space

Conference: group dynamics. Here: implications of the law treaty

to make long story short:

outcome.

320 articles Law of the Sea

Conditions of ocean.

main features: Management

— Economic zone

virtue: Management - functional sovereignty

shortcomings: Cooperation in delimitation

blue lines

controversial shells

ident.

inequality

- inadequacy of management system.

Single Authority: Explain

- Virtues:
- operates
 - in one period: Taxes
 - multi-national
 - global product policy
 - environmental policy.
 - common treaty principle

Drawbacks: explain parallel system

- financial arrangements
- technology transfer
- product limitation
- overload of details
- inefficiency of Council.
- over taken by developments.

Other achievements:

international treaties: transport package

archipelagic states

environmental law

dispute settlement issues.

Wait and see period

First session of EC Commission was very difficult

External
Internal
Real:

New beginning, on a new platform

Adjustment of legal, political concept of 4 countries
to economic, scientific realities of 11 80s and
90s

Wait and see

In the meantime: Big trends that led up to 4 Conference,
generates 4 particular conflictual situations of 4 Conference and
determined its result: these trends continue

The penetration of 4 industrial revolution into 4
Oceans

The growing role of developed countries in the world
pattern, world economic ^{and social}: their entry into 4 field
of High Technology,

These 4 trends generate conflictual goals:
overcoming 4; Industrial revolution = expansion of claims
Tammes Declaration

New Internal, Ec order = new, strong internal institutions

interest there is a resource

These trends will continue: fresh claims, many many problems of delimitation and jurisdiction; of passage through obstacles.

Mini Treaty
Relations in
Third World

Problems between states and non states. | Adjustment & Mutual Adaptation

More loose regional integration: Descentralization

More loose groupings and adjusts to U. N. System

Let a central o. money.

because this will largely determine the outcome of the next - and - see period

What can be common to do, and how will it affect interplay of states and non states.

There is, to think of local agreements between states and non-states that a large part of Part 1) and is relevant. Annex will now be applied, because it rests on premises, assumptions, which, if they were valid, certainly are not valid today.

1. That commercial money would begin in 80s. Recession
2. That it would be restricted to monetary needs. New discoveries
3. That it would have been excluded in 4 international area. Bad definition of delimitation the discovery

off very short defects:

1. Details of unpredictable circumstances
2. Parallel system cost = ineffective
Factor Competition
financial issue
technology hand
3. product limited

European achievement

Model of future

Policy - science - economics

operational. Over general's an international income

Control, strong structures cooperat, of multinationals

New form of industrial cooperat like SAS,

Common heritage. Bei, not out of Law of Sea, but

not out of NIEO, but of new economic theory

Otto Giacomini: of utilitarianism, not community, of cooperat, not competit

So we have to meet the Policy a Rules, operational

No Mining

Research and development; Explorations. Pilot process Plans
joint venture financing (by)

advantage: industrial countries: Money investment.
develop states: participat, Hi Tec.
Co-developments rather than Transfer
Cost of Europe's resources
Future programs, while not fixed.

5 How the European will participat, Europe Plan Just, Korea, Mexico
Brazil, Africa
Oceania

Flipsie. international scope of
Am. program may come in new Play of international

US conference on the Law of the Sea!
Objective of UNCTAD ideological goal the substantial
Amen permanent seat Product limits
Technology Transfer voting

- Profile 7 4675 m - 4575 m
- 5.58 Collision with a massive boulder or manganese encrusted outcrop. The force of the collision has jarred the numbers.
- 6.00 A pillow shaped outcrop or boulder about 1.5 meters in cross-section.
- 6.01 The troika has overturned giving a unique view of a highly rounded manganese encrusted boulder with several sea pens growing around.
- 6.02 The troika has righted itself. The bottom has changed to a bioturbated ooze with scattered half buried nodules.
- 6.10 Low density of nodules largely smaller, polynucleate types. A cast likely from an abyssal short-armed starfish (Porcellanaster) is apparent in the center of the photo.
- 6.40 A barren bottom covered with tracks.
- 6.45 Burrows and feces.
- 6.53 Holothurian tracks, possible buried nodules (humps in the background).
- 6.55 An animal is escaping from the troika in the upper left of the photo. The colour and swimming posture suggest it may be one of the starfish which have created the ubiquitous casts.
- 7.00 Track, burrows and feces on a very flat, calm moderately bioturbated abyssal bottom.

from:

PLÜGER, W.L. et al.: Exploration von Manganknollen im Südwestpazifischen Becken; Forschungsbericht MF 0273, BMFT, 1981

- Profile 5 5540 m - 5585 m
- 3.47 Cannonball nodules (8-10 cm) in the upslope area.
- 3.51 A cloud of very fine sediment stirred by the cable passing near the bottom.
- 3.53 There are extensive tracks between the nodules indicating considerable bioturbation.
- 4.07 A rare sight, a broken nodule is seen toward the center of the photo.
- 4.09 A cone shaped burrow probably of a holothurian is seen amid a nodule field which exhibits a considerable tendency for the nodules to be in rows.
- 4.22 Strong linear trends of nodules many of which are buried below the equatorial rim. In the lower center is an interesting crater which may be generated by a worm or actinarian (HEEZEN and HOLLISTER 1971).
- 4.28 Characteristic switchback looped feces of an abyssal acorn worm in the center of the picture.
- 4.32 Slightly denser packing of the nodules than earlier in the profile.
- 4.34 Nodules showing very rough possibly dissolution surface textures.
- 4.53 This photo is toward the end of the profile, the nodules are often almost buried. There is no current action to sweep the sediment clean.

from:

PLÜGER, W.L. et al.: Exploration von Manganknollen im Südwestpazifischen Becken; Forschungsbericht MF 0273, BMFT, 1981

Bibliography

Gaskell, Thomas F., Physics of the Earth. London: Thames and Hudson; New York; Funk and Wagnalls, 1970.

Ritchie-Calder, Lord [Peter], The Pollution of the Mediterranean, Bern: Herbert Lang, 1972.

North Sea Oil and Gas, Implications for Future United States Development, A Study Sponsored by the Council on Environmental Quality; University of Oklahoma Press: Norman, 1973

Energy Under the Oceans, The Technology Assessment Group Science and Public Policy Program: University of Oklahoma Press: Norman, 1973

Ocean Industry, 1980-81;

Petroleum Engineer International, 1980-81;

World Oil, 1980-81;

Noroil, 1980-81;

Statoil, 1980-81;

Coastal Effects of offshore Energy Systems, United States Congress, Office of Technology Assessment, November 1976.

Ocean Yearbook, Chicago: Chicago University press, Vol.1, 1979; Vol.II,1981.

Little industry. Said: Probs spent huge sums on sophisticated arms and foreign technology but we wanted to become independent of major multinationals. Men tried to modernize so quickly that it fell victim to cultural and religious rebellion.

Mexico: ills of 'petrolization'; Last year, two thirds of all exports earnings come from oil, while non-oil exports stagnated. Investments are channeled into massive industrial projects while agriculture languishes. 1980: \$2 billion grain imports; Luxury goods. Inflation: 64% a year.

Expansion program approved. Campeche sound in the Gulf of Mexico, some 50 miles north of Ciudad del Carmen. Major oil reserves in southern Mexico extend to Continental shelf. Discovery of Ixtoc well in 1979, spilling 800 million barrels over nine months, revealed new fields containing 800 million barrels. Output production: 9 million barrels a day. 13 fields - and probably all the way around Yucatan Peninsula.

PEMEX's budget is now the \$23 billion in 1981 - This has distorted economic growth. Needs of oil infrastructure: Exploration, exploitation, natural gas, require treatment plants and pipe lines, crude demand tanker fleet, new port, pipeline, refineries, and petrochemical complex.

Food imports; oil for food synthesis: But Mexico has been able to be food-self-sufficient by 1985.

Oil production to be called off at 2.7 million barrels a day, some time next year.

Nationwide, 43 percent of all deaths involve children under the age of 5. 60% of population undernourished.

Fish farms

Mar 31, 1971

Calcutta - Barrackpore: 3 days

Carp farms

Calcutta farms

Experimental polyculture project (pigeon, mullet, carp)

Common carp farms

Heavy golden project.

Severe water pollution.

Calcutta: Capital of Industry of Life: Root of Life.

is the main part of humanity & the street - shops, busy, celebrities.
around the bar but some people with fear.

Market: stands, book let up, and ground, but on wire lead.

fruit, vegetable, rice, spices, clothes, jobs and pen, shoes by itself production

handicrafts - textiles, carpet, balloons - Traffic: ^{Truly businessmen.} hierarchy - and sanctity of life.

Every one has his place.

Early morning: a awareness of Calcutta: sleepers: on sidewalks and across ^{streets.}
in rows: bus stands up & bath but. line of desks - account, paper, etc.

and the tracks. between the Decked of their bicycles, & it is the colleges
what looks.

Animal sleepers.

Animal my foot. People brush their teeth. People cooking & open hearts.
Smell of feet - spices and smoke. people many I was. ^{social & moral} women & valets. Children to
school. By the way out in lower country.

[Describe carp farms, rice paddies, coconut. Aquaculture.]

opposite: air-breath Calcutta.

The industry has indeed come a long way in a very short

time.

Offshore oil was first produced in 1894, in from wells drilled from wooden wharves. Not much progress was made during the next forty years, when only three or four platforms and derricks or towers

★ (Pete, Louisiana)

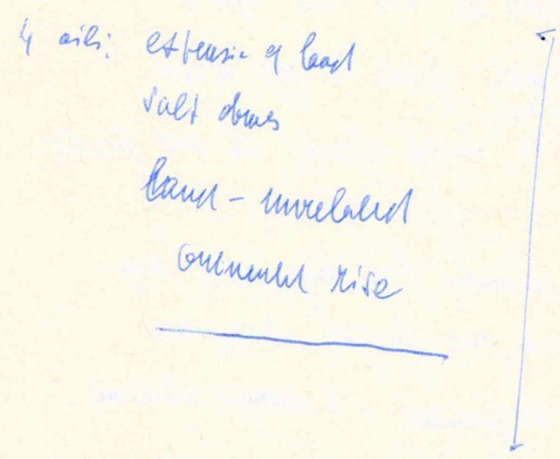
In 1936, a platform here in the Gulf of Mexico, culminated in the discovery of a Creek field. In 1948, the first offshore platform beyond the rights of towers was completed off the coast of Louisiana in the Gulf of Mexico, in a water depth of ^{about} 16 meters.

It took the oil engineering profession nearly 20 years to progress from a 20 meter level of water to a 200 meter level; but then it was a big barrier has been broken. Drills ^{made} 400 meters of water was achieved in 1967, and now it is being predicted as any depth.

While the first platforms were built in the water depths were never less than 20 meters.

559 million tons per acre floor - 1978 = one fifth of lower world: 400/0.9M (2937)
from Permian Gulf.

India, northern coast of Asia, very promising



Building ocean could be cheaper: low sediment to go through
plus per ton, 50,000,000 \$

tide runs 450 miles an hour in open sea
speed controlled by depth of water

carbon dirt tide: increase of temperature 6°, raise sea level 5 meters in
50 years by melting of western antarctic shelf.
it is rising 1 cm a year now

Oil is formed when plant and animal debris drops to the
ocean floor and decays, ~~on the ocean floor at the end of a flood period,~~
and covers fossils and life there. This organic debris is deposited
in mud on the ocean floor. Subsequently, thousands of meters of clay
and sand are deposited over the organic muds. The deeper this mud
is buried, the greater the pressure, and the higher the temperature.

High temperature ^{or within a year} transforms the organic muds into oil and ~~gas~~
and ~~gas~~ ^{seeps upward}, ~~which~~ ^{finds suitable fields or the crest}
of traps, such as clay layers of heavy clay ^{or} salt domes, as oil fields
are formed.

Although the high pressure - generated by the temperatures may
be sufficient to prevent the escape of an oil field, it has been
shown that many oil fields actually originated - to be more exact
of the traps, but the wandering layers of pebbles, in ocean -
floor spreads and continental drift. Thus part of the
mud is washed from the equator back 400 and 200 million
years ago. ^{The oil is washed} By measuring the old magnetic fields direction
a series of differences are found - ~~backing up a possible~~
~~part of drift of the Degees Basin from the Equator 400 million~~
~~years ago to the present position of 55° North.~~

Oil and Gas in the Staffers field
is of Tertiary age and formed approximately 150
million years ago. Numerous theories are advanced

Thus a low Althever part, and his wealth

-- henceforth cursed be this ring.

Gold which gave

me measure ten might,

now may its magic

deed each owner death!

No man shall e'er

own it in month,

and to gladden no life

shall its lustre gleam.

May care consume

each rev'nal possessor,

and envy gnaw him

who meaneth it not!

all shall lust

after its delights,

but none shall employ them

to profit him

To its master giving no gain,

aye the murderer's brand it shall bring.

To death he is fated,

his fear on his fancy shall feed;

though long he live

shall languish each day,

the treasure's lord

and the treasure's slave

...

So the Nibelung blesses his ring! —

who was Albert, the whole thing came on a black gold,
we do not know, but we hope we'll learn to cope with
it — better than the gods who, as we know, after the vicissitudes
of a couple of generations, highlighted under a mushroom cloud.

Free man, you always will cherish the sea!
The sea is your mirror, you study your soul
in the infinite roll of its billows,
and your spirit is a gulf no less bitter.

Homme libre, toujours tu cheriras la mer
la mer est ton miroir, tu contemples ton âme
dans le déroulement infinie de sa lâme,
et ton esprit n'est pas un gouffre moins amère.