

AFRICA'S OIL AND GAS SECTOR

CONTROLLING PROJECT ENVIRONMENTAL PERFORMANCE BEYOND EIA



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IAIA '04

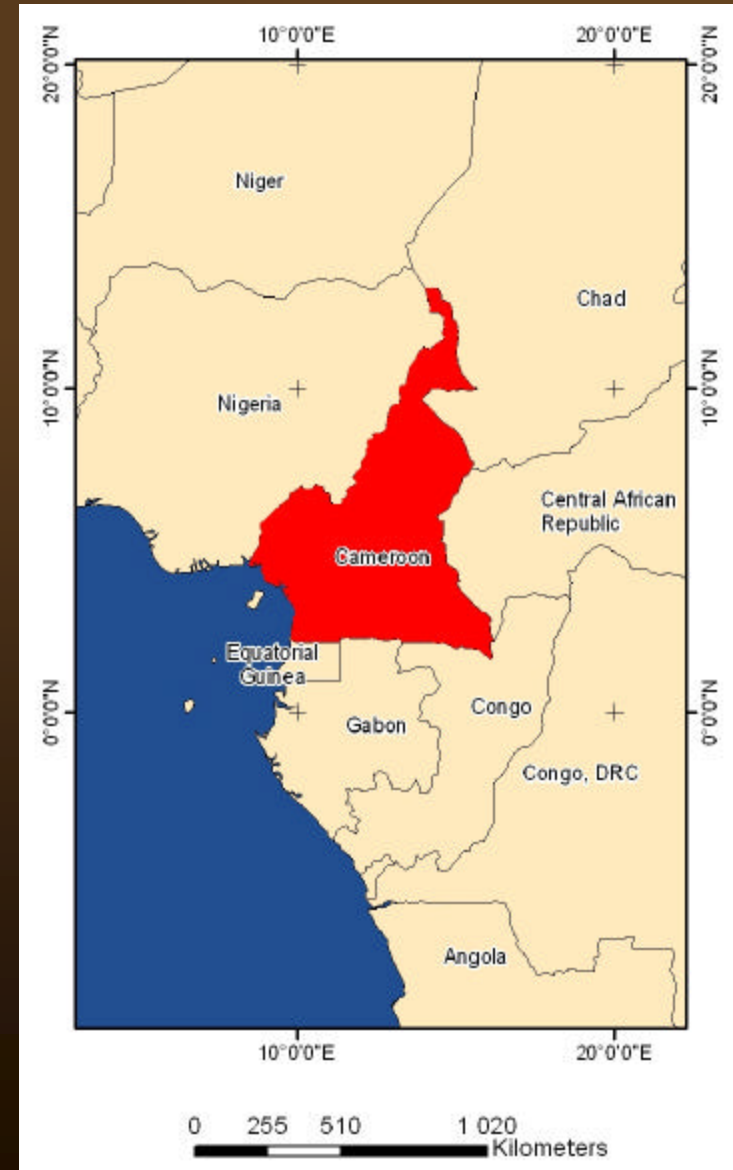


STRUCTURE OF PRESENTATION

1. Cameroon's oil and gas sector
2. Sectoral influence on the evolution of EIA
3. Good science contributes to good EIA
4. Has EIA promoted sustainable development in West Africa?
5. What is sustainable development - its taxonomy?
6. Effectiveness of EIA to promote sustainable development constrained by sector's conservative taxonomic profile
7. Need for sectoral change to fit an enlightened taxonomic profile
8. Conclusion: EIA as a form of sustainability analysis

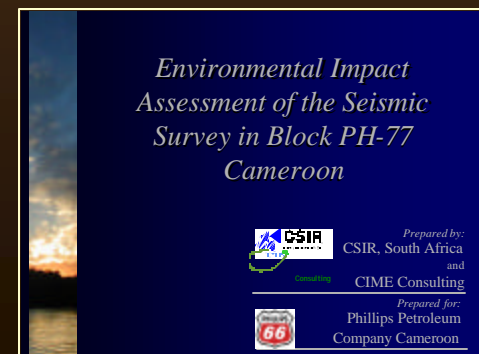
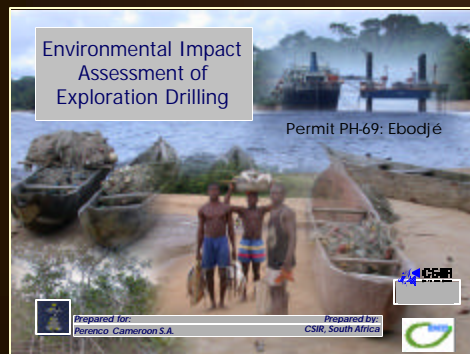
1. CAMEROON'S OIL AND GAS SECTOR

- Cameroon located in central region of West Africa
- Modest oil producer; daily production around 85 000 bbls
- Ranked 7th in region in terms of proven reserves (0.4 billion bbls)



2. SECTOR'S CONTRIBUTION TO THE EVOLUTION OF EIA

- Cameroon's Environmental Framework Law specifies requirement for EIA
- 'Substitution clause' requires adoption of best practice EIA; *eg. as applied elsewhere within the region or globally*
- Cameroon's oil and gas sector driving evolution of EIA – its application to other sectors.



2. CONTRIBUTION TO THE EVOLUTION OF EIA

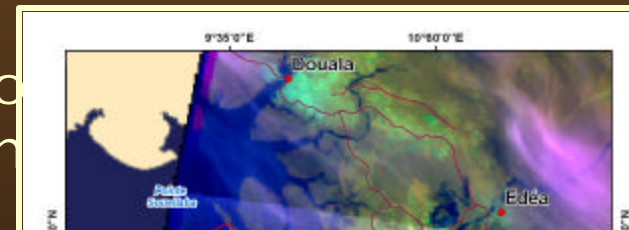
- EIA process similar to that applied, for example, in South Africa and other SADC countries:
 - *Stakeholder engagement*
 - *Scoping to identify key issues (e.g. project risk, ecological and social effects)*
 - *Specialist investigation of key issues; assessment of impacts; mitigation*
 - *Integration of information (project information, specialist investigation outputs) into draft EIR*
 - *Authority review, conclusion of EIA process, decision-making*
 - *Implementation of EMP*

3. GOOD SCIENCE CONTRIBUTES TO GOOD EIA

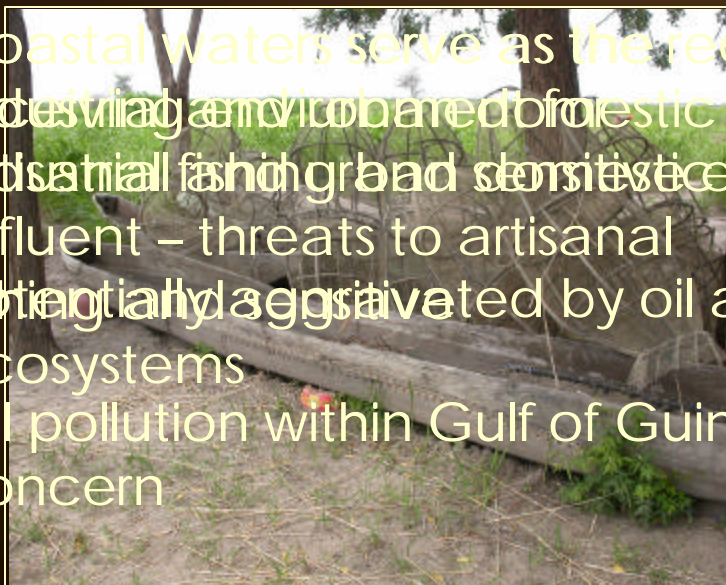
(eg. Marine water quality and mangrove vitality assessment)

- Spill simulation modeling used in EIA to identify target environments exposed to oiling risk

- Artisanal fishing waters & mangrove ecosystems
Examples of sensitive target environments



- Coastal waters serve as the receiving area for effluent from forest, industrial, fish, and agriculture – threats to artisanal fishing and mangrove ecosystems
- Potentially aggravated by oil and gas activities
- Oil pollution within Gulf of Guinea a major concern



APPROACH TO MARINE WATER QUALITY ASSESSMENT IN EIA

- Filter feeders and sediments - reflect changes in marine water quality over time
- No evidence of deterioration in marine water quality attributable to oil and gas sector
- Need for marine water quality database - link to National Oil Spill Contingency Plan Database?



APPROACH TO MANGROVE VITALITY ASSESSMENT IN EIA

- Vulnerability of mangroves to oil pollution - global concern
- Index of mangrove ecosystem health derived from canopy vitality
- Health - ratio of leaf surface area per unit area of ground (Leaf Area Index)
- No evidence of diminished mangrove vitality



Species and locality	Leaf area index	Source
<i>Rhizophora apiculata</i> , Mekong Delta, Vietnam	4.9 (young) 3.3 (old)	Clough <i>et al.</i> (2000)
Mixed species, Turks & Caicos Islands, Caribbean	0.8-7.0, mean 3.96	Green <i>et al.</i> (1997, 1998)
Malaysia	2.2-7.4, mean 4.9	Clough <i>et al.</i> (1997)
<i>Rhizophora</i> , south Florida	3.0-5.7	Araujo <i>et al.</i> in Green <i>et al.</i> (1997)
<i>Brugeria mangrove</i> , Mgeni estuary, South Africa	4.95±1.80	Steinke <i>et al.</i> (1995)
<i>Rhizophora racemosa</i>	0.74±0.08 [A2]	This study
	1.63±0.17 [A3]	
	2.33±0.14 [A4]	
	1.34±0.10 [A2]	
	1.36±0.25 [B8]	
<i>Acrostichum community</i>	3.95±0.45 [see text]	This study
Nearshore Forest	4.86±0.22 [C1]	This study

4. HAS EIA PROMOTED SUSTAINABLE DEVELOPMENT IN WEST AFRICA?

- In spite of oil and gas sector activities in many producing countries, where EIA is practiced, poverty and underdevelopment prevail
- Sector's 'social license' to operate increasingly challenged
- Why has EIA not been a catalyst for change; *i.e. why has it not promoted sustainable development?*



5. WHAT IS UNDERSTOOD BY SD (*ITS TAXONOMY?*)

- Sustainable development flawed by internal tensions
- Conflation of *sustainability* and *sustainable development* into single idea strains ideal of common interpretation of SD
- SUSTAINABILITY: *Limits to Growth* arguments; promotes ideal of steady state economies
- SUSTAINABLE DEVELOPMENT: *Our Common Future*; development essential for upliftment of world's poor; *i.e. growth economies*
- Interpretive tension around four contested core ideas creates taxonomy of SD

FOUR CONTESTED CORE IDEAS

- ❖ **Degree of environmental protection**
- ❖ **Equity**
- ❖ **Participation**
- ❖ **Scope of subject area**

6. EFFECTIVENESS OF EIA TO PROMOTE SD CONSTRAINED BY SECTOR'S CONSERVATIVE TAXONOMIC PROFILE

	<i>CONSERVATIVE</i>	<i>ENLIGHTENED</i>
Degree of environmental protection		
Equity		
Participation		
Scope of subject area		

CONSERVATIVE

ENLIGHTENED

Degree of environmental protection

Weak interpretation of SD

Equity

Non-equity concerns

Economic development off SD

idea that should 'thin'

Participation

interpretation of SD

Promotes high degree of intersubstitutability of natural capital.

Participation of SD

Scope of subject area

Narrow

Broad

CONSERVATIVE

ENLIGHTENED

Degree of environmental protection

Weak interpretation of SD

Strong interpretation of SD

Equity

Non-egalitarian conception of SD

Egalitarian conception of SD

Participation

Top-down interpretation of SD

Little commitment to the re-distribution of resources between developed and developing worlds; also, between rich and poor.

Scope of subject area

Narrow

CONSERVATIVE

ENLIGHTENED

Degree of environmental protection

Weak interpretation of SD

Strong

Top-down approach, involving experts and scientists

Equity

Non-conceptual

Participatory approach that implements

Weak consultation in

Participation

Top-down interpretation of SD

Ordinary members of the public typically excluded.

Scope of subject area

Narrow

CONSERVATIVE

ENLIGHTENED

Degree of environmental protection

Weak interpretation of SD

Strong interpretation of SD

Equity

Non-egalitarian conception of SD

Egalitarian conception of SD

Participation

Top-down interpretation of SD

Little emphasis on broad human-environment relationships.

Scope of subject area

Narrow

a

7. NEED FOR SECTORAL CHANGE TO FIT AN ENLIGHTENED TAXONOMIC PROFILE



CONSERVATIVE

ENLIGHTENED

Degree of environmental protection

Weak interpretation of SD

Strong interpretation of SD

Equity

American

International

European

of

Participation

international

Ring-fencing of sensitive environments
(ecological, social, cultural, etc.)

European

of SD

Scope of subject area

Narrow

Broad

CONSERVATIVE

ENLIGHTENED

Degree of environmental protection

Weak interpretation of SD

Strong interpretation of SD

Equity

Egalitarian conception of SD

Participation

Pro

Product value chains located within the economies of producing countries
(fabrication, use of local professional and technical support services, beneficiation).

Scope of subject area

*Up-
ion*

ad

CONSERVATIVE

ENLIGHTENED

Degree of environmental protection

Equity

Participation

Scope of subject area

From diverse stakeholder values, secure shared stakeholder vision and objectives for oil and gas-centred sustainable development.

Strong interpretation of SD

Bottom-up interpretation of SD

Broad

CONSERVATIVE

ENLIGHTENED

Degree of environmental protection

Weak interpretation of SD

Strong interpretation of SD

Equity

Inter-generational equity considered from a long-term perspective: resource use,

Intra-generational equity

Participation

Legitimacy drawn from the notion of Quality of Life
i.e. attention directed at social welfare and associated parameters

Participation in decision-making

Scope of subject area

Broad

Conservative Profile

- Weak, non-egalitarian, top-down and accommodation of a narrow scope of subject area within its definition combine to form a conservative conceptualization of sustainable development
- Continued allegiance to this model leaves the situation more or less in its current pathological state

Enlightened profile

- Strong, egalitarian, bottom-up and accommodation of a broad scope of subject area within its definition combine to form an enlightened conceptualization of sustainable development
- Allegiance to this taxonomic profile of sustainable development can truly advance its ideals; importantly, with respect to the improvement in African quality of life

8. CONCLUSION: EIA AS A FORM OF SUSTAINABILITY ANALYSIS

- Increasingly apply EIA as form of sustainability analysis,
- Promote enlightened interpretation of SD
- Retain platform of good science, but more importantly,
- Address failure of oil and gas sector to meet stakeholder expectations:
 - *Respect for basic rights*
 - *Opportunities (e.g. jobs) for Africans*
 - *Retention of product value chains within the economies of producing countries (e.g. infrastructure fabrication)*
 - *Finance growth of broad-based country economies*
 - *Leave communities better off as consequence of sector's activities*



EIA AS A FORM OF SUSTAINABILITY ANALYSIS



EIA must effectively integrate
(currently dissociated) environmental,
social and economic spheres of SD

