



The Rising Star: A Resource Focus

Good Order at Sea: A Resource Focus

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B_{MSY} , Minimum SSB, MBAL, B_{pa}
Stocking, Bio-manipulation, Enhancement

B

$$Y = F \cdot \bar{B}$$

Y

MSY,
TAC,
ITQ,
Bag
limit

F

Fishing mortality = 'How much' * 'How'

$$F = f \cdot q$$

Catch = Fishing mortality * Biomass

$$Y = F \cdot \bar{B} = f \cdot q \cdot \bar{B}$$

We can regulate directly or indirectly on:

Yield (Y), Fishing mortality (F) or Biomass (B).

Size of capture: tc (*selectivity*)

Mortality index: $F = Z - M$

Exploitation rate: $F/Z = E$

Effort control: $f = F/q$

F control: $F_{0.1}$, F_{med} etc.

Closed area (MPA, $F = 0$)

Closed season ($F = 0$)

See: Kolding, J and Paul van Zwieten:

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TECHNICAL SOLUTIONS

FOR ALL PROBLEMS !!!!!!!!!


**DO ALL PROBLEMS REQUIRE
TECHNICAL SOLUTIONS ??????????**

Road map

- Grounding the argument
- A perception on the characteristics of piracy
- A state of East African resources
- Consequences of piracy on the resources
- Governing piracy

Message to take home

Piracy problem requires an analysis and solutions beyond what goes on in the sea but also an understanding on what goes on outside the sea, an analyses that comprises social, political, economic and ecological contexts within which piracy operates



“Piracy is an evil that is
unambiguously and
unanimously condemned”

Participants of a workshop on the impacts of piracy on
fisheries in the India Ocean, 2012

Grounding the argument

- Piracy is a problem that has refused to go away.
- It started over 4000 years ago but still present even today.



Location of incidence as at August 2013	Number
Worldwide	176 reported incidents
Somali related incidents	10 reported incidents
Current crew / vessels held by Somali pirates	hostages – 57
Nigeria related incidents	28 reported incidents

Source: (ICC Commercial Crime Services)

Grounding the argument

- A dominating perception in confronting the problem
 - equal or higher force provided by security agents (Naval Forces),
 - better technology to detect and deter the effects of the pirates among others



Grounding the argument

- Understanding has revolved around a **micro-view**
 - security,
 - technology used and
 - strategies employed by the pirates.


Grounding the argument

But I argue for

- a **macro-view** that encompasses
 - threats posed to livelihoods by illegal fishing undertaken by ships not native to the piracy prone areas,
 - economic challenges,
 - erosion of religious tenets and
 - moral values among others.

Grounding the argument

- Piracy requires more than an inside or *emic* perspective but also an outside or *etic* perspective that also analyses the social, political, economic and ecological context within which piracy operates
- understanding piracy can also benefit greatly from how it impacts upon coastal resources.

- 
- “... a closer examination of piracy through ages reveals that piracy cannot be eliminated by sea-based operations alone. In the end, piracy is a land problem and must be solved ashore, whether by force or political means” (A former naval officer: Wombwell, 2010: page v).



A characterization of Piracy



Wicked Problems

TAME vs WICKED PROBLEMS

On	Piracy is.....	Aspects of the characterisitcs
Definition	Tricky or thorny Causes that are difficult to identify Contradictory	Unstructured
Solution	No stopping rule-problem never solved once and for all Not rue or false but better or worse No one shot operation No set of potential solutions Requires large set of stakeholders change their attitudes	Cross-cutting
Type/nature of the problem	Unique Can be symptom of other problems Public Can be explained in numerous ways	Persistent

- “Consider, for example, what would be necessary in identifying the nature of the poverty problem. Does poverty mean low income? Yes, in part. But what are the determinants of low income? Is it deficiency of the national and regional economies, or is it deficiencies of cognitive and occupational skills within the labour force? If the latter, the problem statement and the problem “solution” must encompass the educational processes. But, then, where within the educational system does the real problem lie? What then might it mean to “improve the educational system?” Or does the poverty problem reside in deficient physical and mental health? If so, we must add those etiologies to our information package, and search inside the health services for a plausible cause. Does it include cultural deprivation? spatial dislocation? problems of ego-identity? deficient and political social skills? – and so on. If we can formulate the problem by tracing it to some sort of sources – such that we can say “Aha! That’s the locus of the difficulty,” (Rittel and Webber 1973:161)

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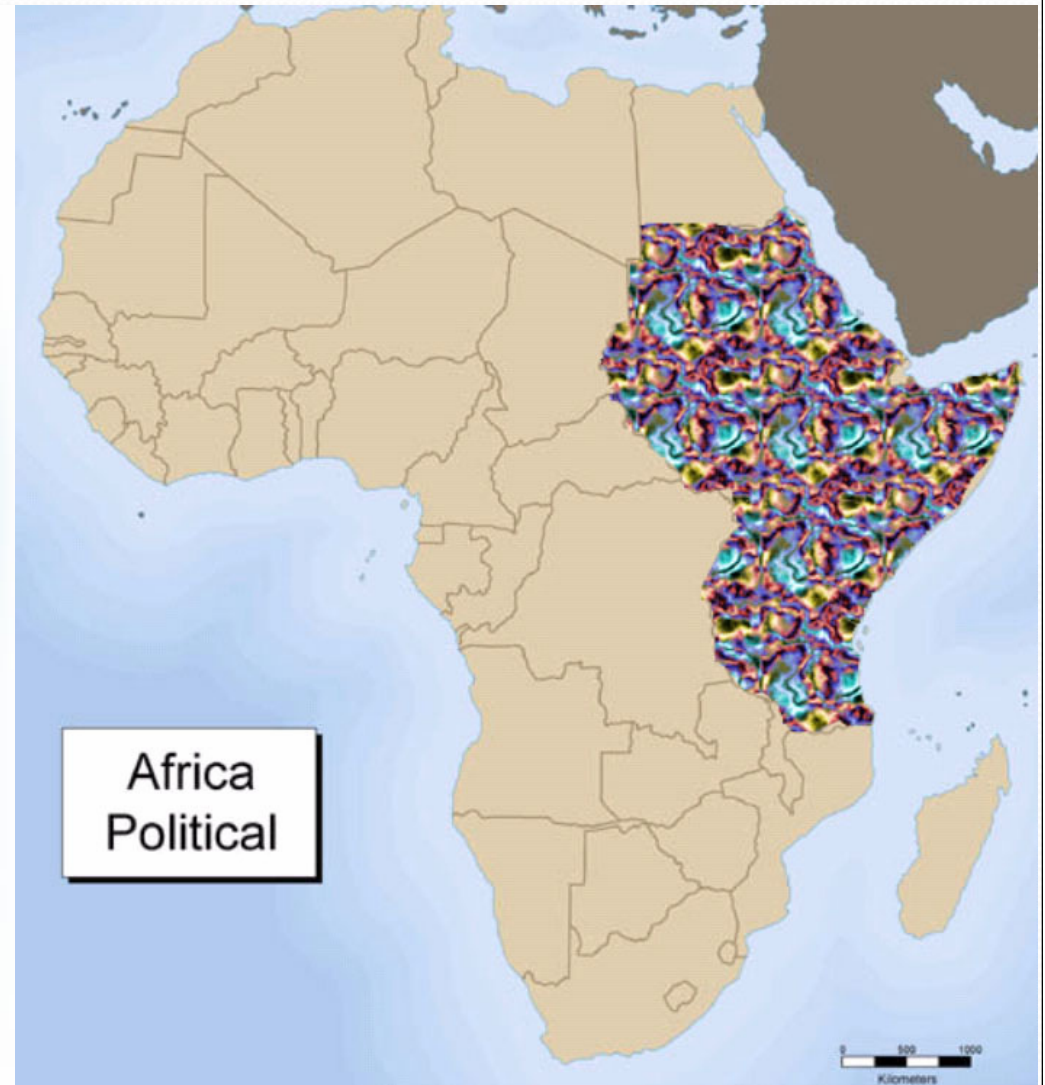


State and performance of East African Resources

Population of East African Countries

Country	Population
Burundi	10 216 190
Eritrea	5 939 484
Ethiopia	90 873 739
Kenya	41 070 934
Rwanda	11 370 425
Tanzania	42 746 620
Uganda	34 612 250
Djibouti	757 074
S.Sudan	8 260 490
Somalia	9 925 640
TOTAL	255 772 846

East Africa



The great Lakes Region

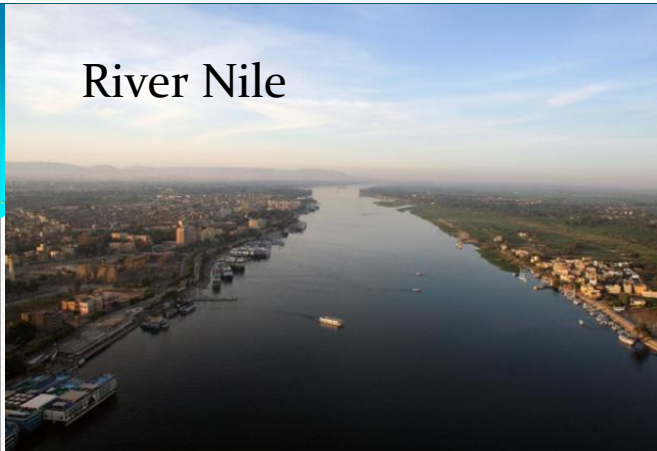


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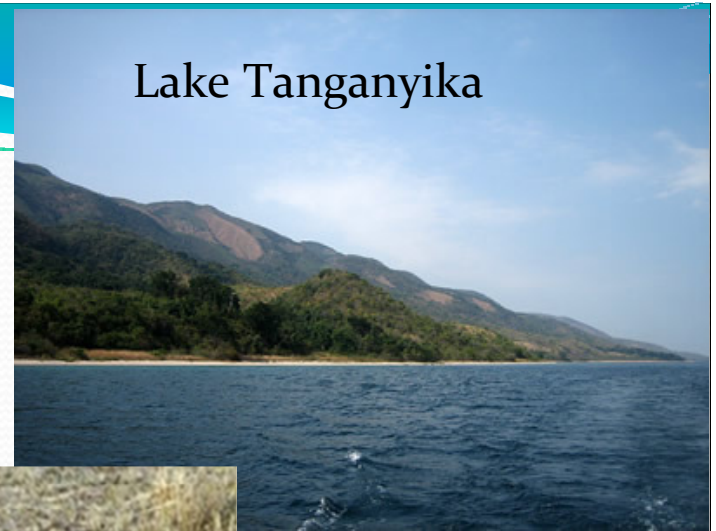
The Horn of Africa



River Nile



Lake Tanganyika



Mt Kilimanjaro



21.08.2011

Animals and Birds in national Parks



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Changes in the resource status

In Agriculture

- the index of per capita agricultural production fell from an average of 128 in the 1960s to 112 in the 1980s, and to 100 after 2000 representing a 21% decrease (Jones, Tambi and Odularu, 2011).
- **Hinterland resources have not performed as expected and so many people have resorted to fishing as a livelihood.**

Women and girls, caught in a small sandstorm, fetch water in Wajir

(Photo take July 21, 2011) (Reuters/Jakob Dall/Danish Red Cross)



2011. The United Nations says two regions of southern Somalia are suffering the worst famine for 20 years.

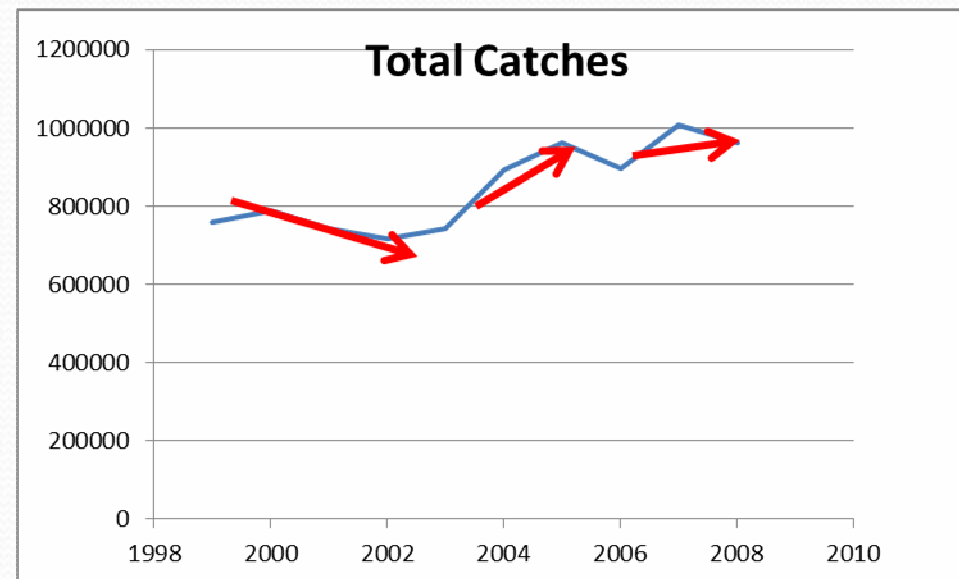
Food Prices

"Four months ago one 50kg sack of rice was only \$28, compared with \$34.50 now, while a 50kg sack of sugar that cost \$40 now costs \$50. Before, \$90 was enough feed the family, but now you can't even buy food for \$200 - we don't know what to do."

Mustafe Mohamed, a father of three in Hargeisa, capital of the self-declared republic of Somaliland (Source:


<http://allafrica.com/stories/201108150601.html> **IRIN 11 August 2011)**


Total Catch Trend in the 10 Countries





Consequences on the coastal resources

- 
- Migrations from other economic activities to the coastal economic activities such as fishing
 - negatively impacted upon the social and economic sectors of fishery dependent countries. i.e. Seychelles has experienced about 4% decline in their GDP which is highly dependent on fisheries (EBCD, 2012),
 - undermined fish business development for instance, there has been an observed price inflation of inputs into the seafood processing industry

- 
- has shifted purse seining to the eastern areas of the Indian Ocean from the traditional fishing areas near Somalia.
 - It also led to a 30% decline in gross tonnage of purse seine landings this was in part because of reduction in fishing licenses issued.
 - lost opportunity for fisheries research and management.
 - it has created 'no-go zone' areas for marine and fisheries research i.e. use of the Nansen Research Vessel to undertake stock monitoring above 10° S which includes waters of Somalia, Kenya and Tanzania (FAO, 2010).

Led to crises

- ***Production crisis*** which may be caused by overfishing, resource scarcity and regulation
- ***Science crisis*** where extreme systems of uncertainties are sometimes overlooked
- ***Property rights crisis*** where the access nature to the coastal resources have to be taken into consideration.
- ***Market crisis*** where changes in the balance of power in the food chain may lead to reduced first hand sale prices and subsequently reduced catch levels which cannot be compensated by raising these prices.
- ***Management crisis*** where traditional management by fishermen is not taken into consideration but management becomes solely centralized and bureaucratic



Governing Piracy

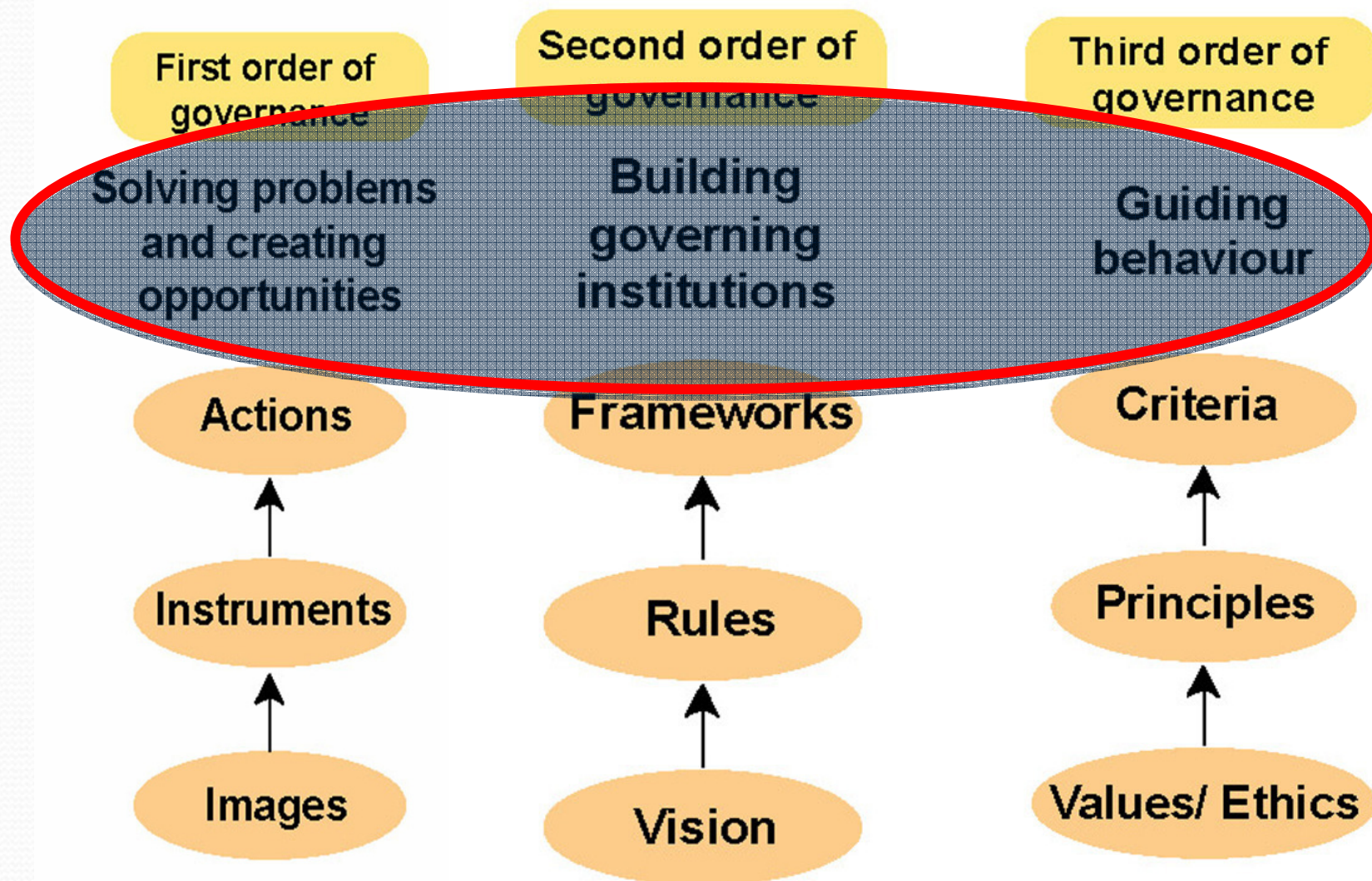


The interactive Governance Approach

Interactive governance

- provides a framework for how governors can interact
- captures the dynamics and complexity of piracy
- It strengthens governance

Source: <http://www.marecentre.nl/fishgovfood/downloads.html> (FishGovNet)



Some recommendation on governing piracy

- Strengthening the interactions between the systems-to-be-governed and the governing systems through enhancing capacity of local people and governments
- Incorporating pirates as part of the solution rather than clients in the fight against piracy.
- Offering an assortment of training, education and awareness to young people who could be recruited into piracy. A good example is what the United Arab Emirates (UEA) is doing in Somali (see Lowe (2013))



**Thank You for
Listening**