Physical and financial limits to resource access and utilization in Mediterranean economies

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26th March 2014 | Ankara
OUR ARGUMENT

In a world characterized by the existence of physical limits to the availability of global ecological assets, a systemic risk may exist for Mediterranean economies due to the concurrence of:

1) ecological asset scarcity
2) increasing resource prices
3) challenging financial situations
ECOLOGICAL FOOTPRINT: ASSESSING COUNTRIES’ ECOLOGICAL BALANCE SHEET

**SUPPLY = BIOCAPACITY**
How much bioproductive area is available to us?

**DEMAND = ECOLOGICAL FOOTPRINT**
How much bioproductive area do we use?

\[ EF_C = EF_P + (EF_I - EF_E) \]
DEMAND OUTSTRIPS SUPPLY

• **From 1961 to 2008**, Mediterranean’s per capita Ecological Footprint (EF) grew by 52 percent (from 2.1 to 3.1 gha), mainly because of the increase in the carbon Footprint component (+185%).

• Per capita biocapacity (BC) decreased by 16 percent (from 1.5 gha to 1.3 gha): population growth outstripped gains in productivity.

• Between 1961 and 2008, the region’s ecological deficit increased 230%.
In 2008, Mediterranean biocapacity met only 40% of the residents’ demand (it was 73% in 1961).

Production activities have demanded more resources and services than are regionally available for more than 50 years.

Already by 1961, the region was a net importer of Ecological Footprint (13% of total demand). **By 2008 the Footprint embedded in net trade imports accounted for 26% of the total Footprint.**

EFP represents the biocapacity used for producing GDP within a country while EFC represents the biocapacity embedded in all commodities, goods and services consumed by the residents of that country. Comparing EFC vs. BC indicates the extent of the total ecological deficit. The difference between EFC and EFP indicates the Footprint embedded in net trade activities.
WHO’S BUYING & WHO’S SELLING

ECOLOGICAL FOOTPRINT
IMPORTS IN 2008
142 MILLION GHA

The size of the arrows is a function of the extent of the trade flows, and the color represents the corresponding land use type.
• Ecological Footprint exceeds local biocapacity by more than 150%.
• Algeria experienced the most significant shift.
• Morocco, Libya, Syria, Tunisia and Turkey shifted from ecological creditor to debtor status; ecological deficit increased in all other countries.
• Ecological deficit has made the region’s economic stability dependent on healthy global ecological assets, and the financial capacity to pay for them.
Ecological Footprint vs. Biocapacity
Ecological Footprint of Mediterranean countries, by component, 2009

The diagram shows the ecological footprint of Mediterranean countries in 2009, categorized by component. The x-axis represents countries, and the y-axis represents gha per capita. The components include Carbon, Built_up_land, Fishing_ground, Forest_land, Grazing_land, and Cropland. Each country’s footprint is visualized with different colors, allowing for a clear comparison across the region.
• Today, access to ecological resources and services is subject to “physical limits” (the total amount globally available) and “economic limits” (the ability of countries to purchase them).
• Today, ecological deficits are coupled with fiscal deficits in many Mediterranean countries.
• As countries become more dependent on external ecosystems, they expose their economies to price volatility and possible supply disruption.
Natural Resource Risks in Mediterranean countries

- Mediterranean countries came to rely on imports of natural resources during a time of relative abundance but this time is over; they now have to face rising and unpredictable import bills while facing economic downturn.

- Trade related natural resource risks have been growing due to increasing price volatility associated with global scarcity.

- Large carbon footprints also represent a risk: global warming, heavy reliance on fossil fuels that are more expensive, inefficient technologies.

Effect on the trade balance of a 10% rise in natural resource prices
CONCLUSIONS

- **Liquidation Economies**: Med economies are increasingly dependent on resources to operate.
- **Price volatility the new normal**: resource sector is characterized by supply disruption, volatile prices and rising competition over access to resources.
- **Ecological assets and economic performance are linked**: resource management is a key factor in reducing economic risk and improving competitiveness.

- **Hotspots**: key drivers of resource dependency can be identified and easy wins selected (*SCP, decoupling, absolute consumption levels*) to reverse ecological deficit and help societies thrive.
Thank you

For more information please visit:

http://www.footprintnetwork.org/med

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